

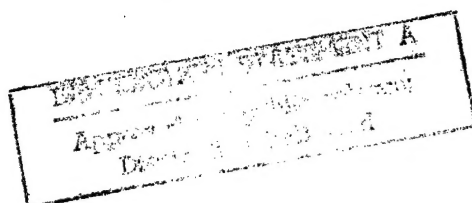
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20 May 1985

USSR REPORT

TELECOMMUNICATIONS POLICY,
RESEARCH AND DEVELOPMENT

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20 May 1985

WORLDWIDE REPORT
TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

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HONG KONG

IMPLICATIONS OF 1997 FOR HONG KONG PRESS FREEDOM

Hong Kong NEW CHINA MORNING POST in English 30 Mar 85 p 2

[Editorial]

[Text]

On Page 14 today we publish the full text of a speech given at the recent general assembly of the International Press Institute in Cairo by the editor of the London Observer, Donald Treford. It is essential reading for anyone who believes in freedom. Because if the press isn't free you can forget about other freedoms.

Treford doesn't pull any punches. And his warning is all the more alarming because he is not talking about a Third World country where it is generally accepted, no matter how wrongly, that press freedom is a luxury. His target is Britain, the supposed bastion of press freedom where, he says, "it has become virtually impossible for the media ... to expose official wrongdoing without breaking the law."

There is a very clear message for us all in Hongkong. If "freedom of access to public information is not seen by the Government or the courts as a necessary condition of our democracy" in Britain, then what is to stop a steady erosion of that freedom here? And if not now, 12-plus years down the line?

Threats to press freedom obviously dominated the IPI assembly in Cairo. The sad situations that prevail in many countries were highlighted. And rightly so. Discussion on threats to the free flow of information, wherever it may be, is of vital concern to everyone. As a former director of IPI, India's Cushrow Irani, put it: When one newspaper is suppressed the whole of the free press suffers.

But what about the situation in China? And the implications this might have on Hongkong post-1997? Why didn't they get a mention? Unfortunately the blame lies very much with us, at least as far as Hongkong is concerned.

China is not a member of IPI, although attempts were made last year to get it to join. There was some individual interest — but perhaps they baulked at having to state in writing their willingness to protect and promote press freedom, defined by IPI as "free access to the news, free transmission of news, free publication of newspapers, free expression of views." That would be a little hard to honour on the mainland.

But while Hongkong has long been a member we have not been effectively represented at IPI for many years. The last time, in fact, appears to have been in 1970 — when the general assembly was held here. Yet in the 1984 membership list of IPI 14 Hongkong people are named as full members including several publishers of leading Chinese language newspapers.

Perhaps active membership of IPI hasn't mattered in the past — and that's debatable. After all Hongkong enjoys one of the most liberal and tolerated press freedoms in the world — although we are sometimes subjected to insidious misinformation from senior "sources" in the Government.

But can we afford to continue to be complacent and apathetic now that 1997 has hit the proverbial fan? It's all very well to be told in the joint declaration that press freedom will be guaranteed. And there is no reason why it can't work in a "one country, two systems" concept.

No matter how genuine that intention may be, however, the bottom line surely is the interpretation of the word "freedom." Because how we perceive freedom in the West is entirely different to the socialist concept, however liberal a stance China appears to adopt.

It would be naive to expect radical changes in this philosophy before 1997. And then it could be too late. It is equally naive to believe that newspapers in Hongkong will continue to be free to criticise, say, the regime in Peking while their counterparts on the mainland remain gagged. Even if the Chinese Government is grudgingly benevolent — very difficult to envisage — it will be under enormous pressure internally to make the media on either side of the border "equal".

So surely now is the time at least to start talking about the possible implications our date with destiny will have on press freedom here. And make all concerned aware of our apprehensions.

Again, it would be naive to think that IPI or any other similar institution can solve all our problems. They can't. Their powers are obviously limited. But that doesn't mean we should sit back and accept tamely whatever befalls us. IPI is a very vocal and persistent voice for press freedom — and therefore all the other freedoms we enjoy. If we don't help ourselves nobody else will. And one of the more positive ways is to support organisations like IPI.

It is to be hoped the significance of this sinks in before the Hongkong press makes decisions on whether to attend the 35th IPI assembly in Vienna in May next year. That's 11 years before 1997.

HONG KONG

MOBILE CELLULAR RADIO PHONES TO BE INTRODUCED

Hong Kong NEW CHINA MORNING POST in English Supplement p 2

[Article by Peter Robinson]

[Text]

China Telecom Systems (HK) Ltd, one of the two new licensees of the mobile cellular radio telephone, will launch its system in Hongkong today.

The launching follows hard on the heels of the Legislative Council (Legco) ruling earlier this month on the level of charges for the two licensees to connect their systems into the general telephone network operated by Hongkong Telephone Co (Telco).

The other licensee, Hutchison Telephone Co, is still testing its system which it hopes to launch in June.

Telco's subsidiary, Communication Services Ltd (CSL), was the first to enter the mobile cellular radio market.

Telco unsuccessfully opposed the granting of more licences and also failed to reach terms for the new licensees to connect their systems to the general telephone network.

It was left to Legco to lay down the terms of interconnection which cleared the way for the two new licensees to introduce their systems.

Now it only remains to be seen whether there is sufficient demand to support three companies in this field.

And whatever happens, the breaking of CSL's monopoly should lead to price competition.

There are indications that China Telecom will offer the cheapest system while Hutchison will have a more up-market and extensive range of phones.

Cellular radio technology involves the transmitting of high-frequency, although limited range radio waves from a number of transmitters or "cells" strategically placed throughout the territory.

As soon as the radio telephone user moves out of range of one transmitter his equipment automatically logs on to the more powerful signal of another transmitter.

Yesterday, the general manager of China Telecom, Mr Peter Hutton, told Business News that the company's joint venture with the Shumchun city government's Shumchun Mobile Radio Co has been given approval by the Shumchun Telecommunications Development Corp to provide a mobile cellular radio system there.

The joint venture company was set up in September to investigate the most suitable system for Shumchun.

Mr Hutton said the system would be similar to that operated in Hongkong, although it would probably operate on a different frequency.

The agreement to proceed with the system was signed by Mr Wen Peiliang of Shumchun Telecommunications Development Corp and Mr Benny Hsieh, deputy managing director of China Telecom.

This is the first contract for mobile cellular radio in China and each of the three companies in Hongkong are keen to have their systems adopted by other major cities.

CSO: 5550/0070

JAPAN

TEXT OF U.S. STATEMENT ON TELECOM TALKS

OW030429 Tokyo KYODO in English 0403 GMT 3 Apr 85

[Text] Washington, April 2 KYODO--Following is the full text of a joint statement issued Tuesday by the U.S. State and Commerce Department on Japan-U.S. telecommunications discussions.

The United States attaches great importance to its relationship with Japan. The President has said on more than one occasion that there is no relationship more important to peace and prosperity in the world than that between our two countries.

In the past weeks, concern in this country about the size of our trade deficit with Japan and our difficulties in achieving prompt and full access to Japan's markets has grown substantially. Last weekend, the President sent his special envoy, Dr Gaston Sigur, and Under Secretary of Commerce Lionel Olmer, to Japan to discuss with Prime Minister Nakasone the situation in the United States and the need for action.

Our trade policy toward Japan is clear. We want the same access to Japan's markets that Japanese companies have to ours. Japan needs to open its markets fully to American products and services.

We have (underlined) been making progress. After intensive negotiations which were conducted in the aftermath of the President and Prime Minister's January 2 meeting in Los Angeles, the United States and Japan have reached basic understandings on the regulatory regime for the telecommunications sector in Japan, which went into effect April 1. The understandings were a welcome development in light of the commitment by both leaders to work cooperatively to open Japan's markets, initially in four sectors--telecommunications, electronics, forest products (including paper), and medical equipment and pharmaceuticals.

On the important issue of technical standards and requirements, Vice Minister Koyama wrote to Under Secretary Olmer, on the instruction of the Prime Minister, that standards and requirements would be further reduced with the "aim of making the regulatory process equitable between Japan and the U.S. and will be based on the principle that the choice of terminal equipment and communications protocols should be left to the user." The simplification of standards and requirements is to be completed, with the participation of U.S. exports, within

sixty days. The Prime Minister has urged that it be completed sooner if possible. In addition, the Prime Minister gave his assurances that American companies would be represented on bodies that set standards and make rules, and that this too would be done at an early date. An American team will be leaving shortly for Tokyo to continue technical discussions.

The United States will monitor the understandings reached and will continue to pursue further market opening actions to remove formal and informal barriers in the telecommunications area. Other sector talks have the same aim and are underway. In fact, working level meetings on forest products began today.

The actions that Japan is undertaking are in Japan's interest as well as ours. Not only do they strengthen Japan's role in the world economy and strengthen the world trading system but they will benefit Japanese consumers. We appreciate the leadership that Prime Minister Nakasone and his government have taken in this effort. We realize that systemic change of this kind is difficult, but it is worth the effort. Indeed, it is essential for continued well-being of the free trading system.

There is no single, simple solution to our trade problems. What is required is hard work, persistence, and patience. We must remember that the solution to this problem is opening Japan's markets, not closing ours. We should remember that ill-considered action could hurt us just as much as the Japanese.

CSO: 4100/356

JAPAN

NTT PRESIDENT INTERVIEWED ON VAN SATELLITE

OW051125 Tokyo KYODO in English 1114 GMT 5 Apr 85

[Text] Tokyo, April 5 KYODO--Hisashi Shinto, president of Nippon Telegraph and Telephone Corp (NTT), said Friday NTT is considering embarking on an international VAN (Value-Added Network) service, possibly in a joint venture with a foreign communications enterprise.

In an exclusive interview with KYODO NEWS SERVICE, Shinto said NTT has already received a proposal for forming a joint venture for the projected VAN service from a foreign enterprise.

He refused to give the name of the foreign company, however.

He also said NTT plans to begin international satellite telecommunications service in the future, a service now monopolized by the International Telecommunications Satellite System (INTELSAT), an international organization.

Under recommendation by the International Telegraph and Telephone Consultative Committee (CCITT), an advisory organ to the International Telecommunications Union (ITU), no enterprise is currently allowed to begin an international VAN service, the Japanese equivalent of the enhanced communication network service of the United States.

But the Japanese and U.S. governments are moving to authorize the start of such services between the two countries, apparently prompted by moves among private Japanese and U.S. enterprises, such as Get Telenet and General Electric Corp (GE), both of the United States.

The VAN is data communications service using leased and public communications circuits, enabling different types of computers to communicate with each other through an intermediate mainframe computer.

Shinto also said NTT, which came into being only Monday through privatization of the government-run Nippon Telegraph and Telephone Public Corp, will cooperate in purchasing communications satellites from the United States.

CSO: 4100/356

JAPAN

TOKYO PLANS INTERNATIONAL INFORMATION CENTER

OW040023 Tokyo KYODO in English 0007 GMT 4 Apr 85

[Text] Tokyo, April 4 KYODO--The Tokyo Metropolitan Government has unveiled a plan to build "Tokyo Teleport," an international information base using a communications satellite.

The local government plans to build the teleport incorporating an "earth station" for sending and receiving international information through a communications satellite, an information processing center and information-related office buildings on reclaimed land in Tokyo Bay.

If the plan is realized, a big "information" industrial complex will be born in Tokyo Bay, making a great deal of information available at low cost.

The Osaka and Yokohama Municipal Offices are also preparing similar plans.

According to the plan, the earth station will have six 10-meter diameter parabolic antennas for sending and receiving international information through a communications satellite.

The information will be processed at a large computer-equipped telecom center to make it usable among different types of computers.

New media industrial office buildings will be built around the telecom center to give facsimile, video, teletext and other information services.

The facilities will be connected with companies in the heart of Tokyo using the services through optical fiber cables.

The office buildings, with a total floor space of about 400,000 square meters, will be constructed at an estimated cost of about 130 billion yen.

The local government will shortly set up a study group to consult with other local governments planning similar teleports.

Such teleports are under construction in foreign cities including New York to reduce international communications rates.

CSO: 4100/356

JAPAN

BRIEFS

WORLD TELEPORT CONFERENCE OPENS--Tokyo, April 4 KYODO--A two-day world teleport conference got under way here Thursday to discuss plans to build a new media industrial base using communications satellites. The conference, second of its kind, opened at a Tokyo hotel attended by about 500 persons including delegates from 30 foreign cities planning to build teleports. At the outset of the meeting, it was proposed to form a "world teleport union" to aim at unifying teleport construction standards. The first conference was held in New York in February last year. Teleports are under construction in New York and London. Posts and Telecommunications Minister Megumu Sato said in his speech that Japan wants to promote the teleport project along with a teletopia plan. Tokyo Governor Shunichi Suzuki said teleports are needed to meet the increasing volume of international communications. Suzuki also announced Tokyo's plan to build a 40-hectare teleport on reclaimed land in Tokyo Bay. Yokohama and Osaka Mayors Michikazu Saigo and Yasushi Oshima said their cities planned to build teleports on reclaimed land in Yokohama Port and Osaka Port. The next conference will be held in Amsterdam in April next year. [Text] [OW041115 Tokyo KYODO in English 1104 GMT 4 Apr 85]

NTT URGED TO BUY MORE FROM U.S.--Tokyo, April 5 KYODO--The government will soon urge Nippon Telegraph and Telephone Corp (NTT) to increase its purchase of telecommunications equipment from the U.S., according to Posts and Telecommunications Minister Megumu Sato. Sato said late Thursday he will meet NTT President Hisashi Shinto shortly for this purpose. He made the remark following Prime Minister Yasuhiro Nakasone's indication earlier in the day that he hopes NTT will buy more U.S.-made telecommunications equipment in fiscal 1985 than the previous year. NTT has an agreement with the U.S. on increased imports of telecommunications gear but such procurements slowed down in fiscal 1984, which ended March 31. [Text] [OW050217 Tokyo KYODO in English 0141 GMT 5 Apr 85]

FOREIGN FIRMS ALLOWED 2 PLACES ON TELECOM COUNCIL--Tokyo, April 8 KYODO--Foreign firms will get two places on the Telecommunications Council, an advisory body on the government's telecommunications policy. Government officials said Monday the cabinet will approve revision of one of its orders, bringing the panel up to 22 members. Moriya Koyama, vice minister of Posts and Telecommunications, said the ministry has yet to choose the two new members, but will do so as soon as possible to quell mounting American criticism of Japan's regulatory process in the telecommunications field. Japanese nationals working for foreign enterprises will be eligible for the posts, he said. The present 20 members have a tenure of two years, and are mostly former top ministry officials, scholars and business leaders. [Text] [OW080925 Tokyo KYODO in English 0913 GMT 8 Apr 85]

MALAYSIA

NORWEGIAN FIRM WINS CONTRACT FOR AUTOMATED MOBILE PHONE NET

Oslo AFTENPOSTEN in Norwegian 23 Apr 85 p 48

[Article by Dag A. Tinholt datelined Kuala Lumpur: "Norwegian Mobile Telephones in Malaysia"]

[Text] In hard competition with big multinational companies, Simonsen Elektro A/S has obtained a concession for its automatic mobile telephones in Malaysia.

Beginning 1 February 1985 it was possible to communicate over mobile telephones in Kuala Lumpur, the capital of Malaysia. The plan is that before the end of the year the entire country will have mobile telephone communications. The large Swedish firm L. M. Ericsson has the responsibility for expanding the mobile telephone system with transmitters and receivers in Malaysia.

Several multinational companies have had their applications for concessions rejected. There is therefore a certain amount of pride in the fact that the small Simonsen Elektro A/S is one of seven companies to have a concession to sell its mobile telephone system in Malaysia.

"Type approval shows that small Norwegian suppliers which can offer quality products have good possibilities to assert themselves internationally," said Arvid Varleite of the import company Bond Link Sdn Bhd. Bond Link has exclusive agency to sell Simonsen's automatic mobile telephones in Malaysia.

Varleite estimates the market potential at about 30,000 mobile telephones over a 5-year period. L. M. Ericsson will be the strongest competitor. The firm has already applied to the Department of Industry in Malaysia to start local production of mobile telephones.

"If the Swedes begin local production the situation for Simonsen will be difficult. Simonsen Elektro and the five other companies will in the beginning base their sales programs on mobile telephones produced at home, but with a 40 percent import duty in Malaysia our products will not be competitive," said Varleite.

He said that Simonsen Elektro A/S will not start local production in Malaysia at first. Bond Link will now build up a sales network with agents in each of Malaysia's provinces.

PEOPLE'S REPUBLIC OF CHINA

PRELIMINARY RESULTS OF GEOSTATIONARY SATELLITE BEACON OBSERVATIONS

Wuhan WUHAN DAXUE XUEBAO (ZIRAN KEXUE BAN) [JOURNAL OF WUHAN UNIVERSITY (NATURAL SCIENCES EDITION)] in Chinese No 4, Dec 84 pp 115-118

[Article by Lei Yuanhan [7191 3104 3352], Bao Jifang [7637 4949 5364], Zhang Chaoxi [1728 2600 0823], Pi Xiaoqing [4122 2556 7230], Ye Dongying [0673 0392 5391], and Zhou Chunrong [0719 2504 2837]: "Preliminary Results of Geostationary Satellite Beacon Observations"]

[Text] The transmission time of radio waves between a satellite and the earth is subjected to unfavorable influences induced by an ionized medium. When electric waves pass through the ionosphere, in addition to being delayed, irregular fluctuations in the amplitude and phase of the electric waves are also observed, i.e., ionospheric scintillation. In the VHF range ionospheric scintillation can reach more than 20 dB, and even when as high as 11.5 GHz scintillation can still be observed [1]. Ionospheric scintillation is primarily distributed in the poles and in the equatorial zone, with the equatorial scintillation zone being an area within $\pm 20^\circ$ of magnetic latitude [2]. The magnetic latitude of Wuchang is 19.2° , right on the edge of the equatorial scintillation zone, and the ionospheric situation is complex. In May 1983 we began to receive signals from Japan's ETS-II geostationary satellite, and here we present the results of an analysis of the materials from May, June and August of 1983.

The amplitude and Faraday angle of rotation recorded from the 136 MHz signal obtained at Wuhan (114.4°E , 30.5°N) from Japan's ETS-II geostationary satellite (130°E) using a copy of the model 505B polarimeter are illustrated in Figures 1(a), (b), and (c).

[see Figures 1(a), (b), and (c), next pages]

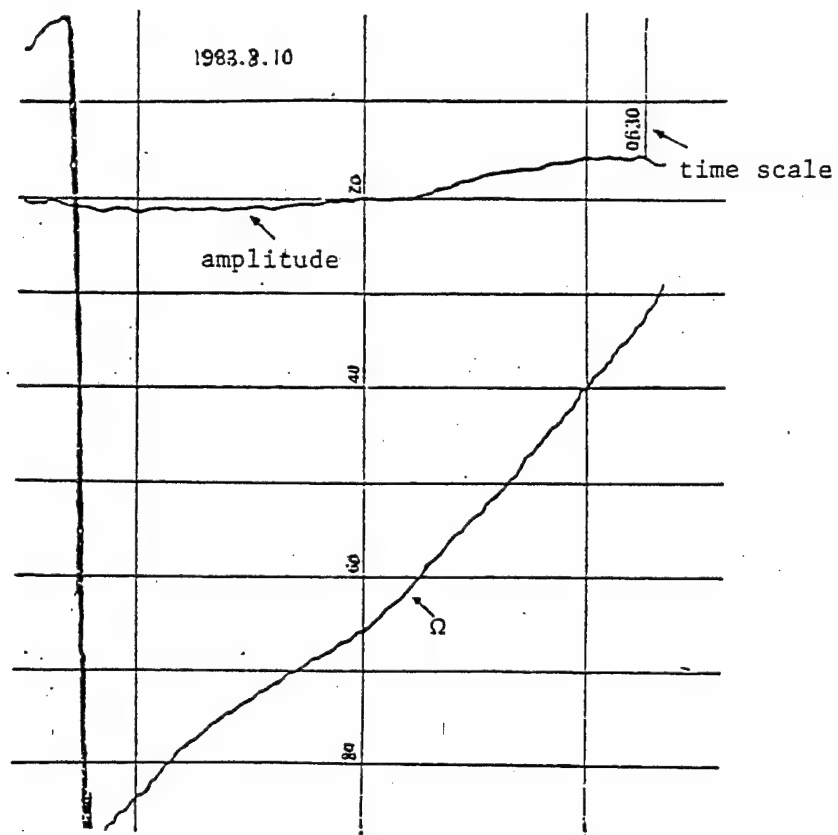


Figure 1(a) Conventional record

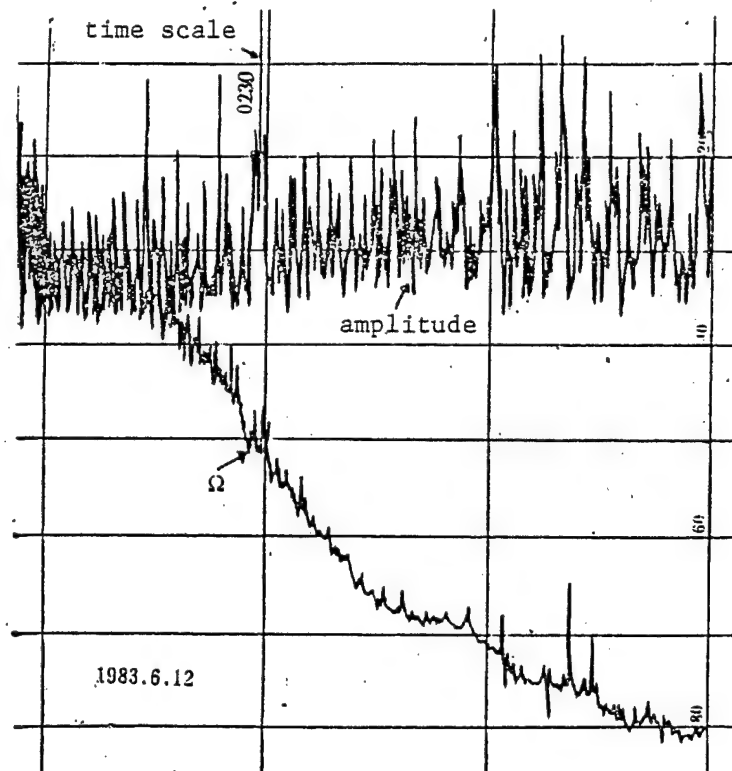


Figure 1(b) Nocturnal scintillation

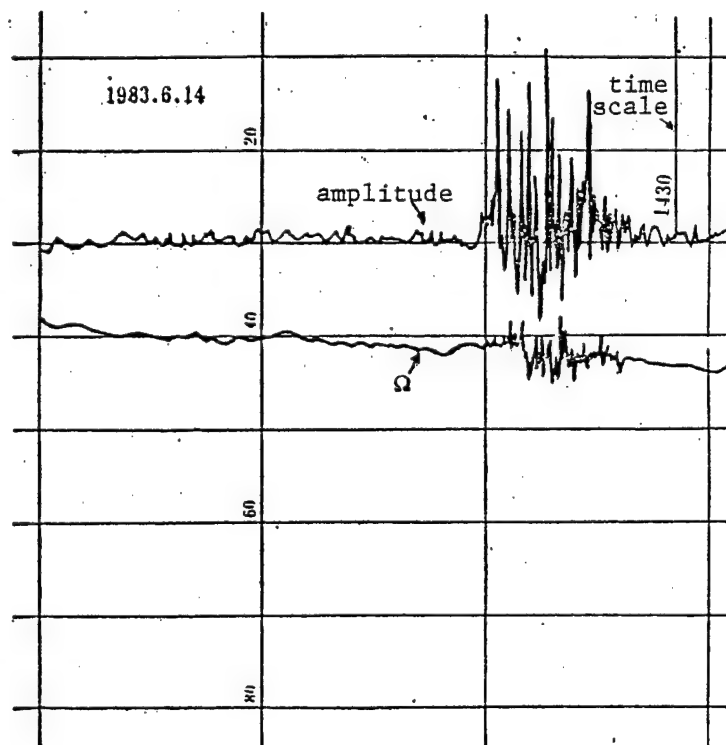


Figure 1(c) Diurnal scintillation

As everyone knows, the following relational formula [3] exists between the Faraday angle of rotation Ω and the columnar content N_F :

$$\Omega = \frac{K}{f^2} \bar{M} N_F \quad (1)$$

in which $K = 2.36 \times 10^4$ MKS units, f is equivalent to 136 MHz, \bar{M} is the value of M at the point of intersection at an altitude of 400 km and the broadcast path, actually calculated as $\bar{M} = 44798 \times 10^{-9}$ MKS units, the coordinates of the point of intersection's vertical projection to the earth's surface is 27.9°N , 115.7°E . According to Titheridge's view, the columnar electron content of N_F below 2,000 km can be derived from formula (1):

$$N_F \approx 1.75 \times 10^{16} \Omega \text{ (electrons/m}^2\text{)} \quad (2)$$

in which Ω units are radians. When $\Omega = \pi$ radians, $N_F \approx 5.5 \times 10^{16}$ (electrons/m²) from which it can be seen that between N_F and Ω only one factor is lacking. Therefore later analysis mainly studies changes in Ω .

In order to make comparisons with data in the monthly report of ionospheric characteristics obtained by vertical detection, the following stipulations were made for processing satellite observation records: (1) Ω is taken only as an integral value and $n\pi$ fuzziness is eliminated using the method [4] pointed out by Li Jun [2621 6874] and others; (2) the scintillation index (SI) and Faraday angle of rotation $\Delta\Omega$ take the average value of a segment of value within ± 15 minutes of the center as the integral and make it the integral value; (3) the magnitude of scintillation expressed by SI should be

$$SI(dB) = P_{\max} - P_{\min} = 20 \log \frac{A_{\max}}{A_{\min}} \quad (3)$$

in which A_{\max} and A_{\min} correspond to the voltages of P_{\max} and P_{\min} , respectively [5], (4) dividing the number of appearances of SI, $\Delta\Omega$, expanded F layer, and burst E layer at the same time in the same month by the total number of days, their appearance rates can be found, their changes with local time are illustrated in Figure 2; (5) omitting situations where $SI < 1$ and $\Delta\Omega < 3^\circ$, because the values from readings of these times are not necessarily reliable. The vertical measurement materials used in the computations are materials of observations at the Wuhan Observatory (114.4°E , 30.5°N).

1. The correlation between Ω and $(f_oF_2)^2$: this point can be seen from the monthly mid-values of Ω $(f_oF_2)^2$ with changes in local time, it has almost completely similar change characteristics, as illustrated in Figure 3; in addition, the coefficient of correlation derived by linear regression from the statistical relationship Ω and $(f_oF_2)^2$ is 0.95, i.e., there is a clear positive correlation, which means that the changes in Ω reflect changes in $(f_oF_2)^2$.

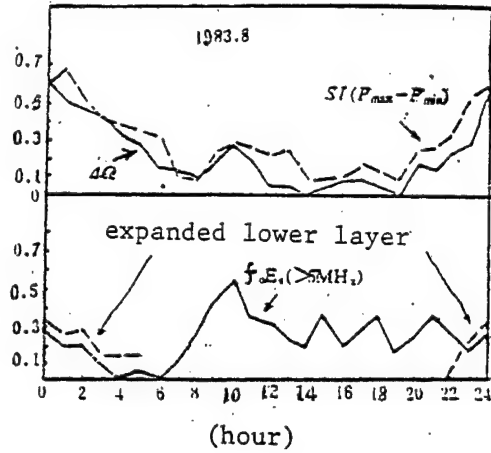


Figure 2. Changes with local time of the rate of appearance of SI, $\Delta\Omega$, expanded lower layer and burst E layer ($f_oE_3 > 5$ MHz)

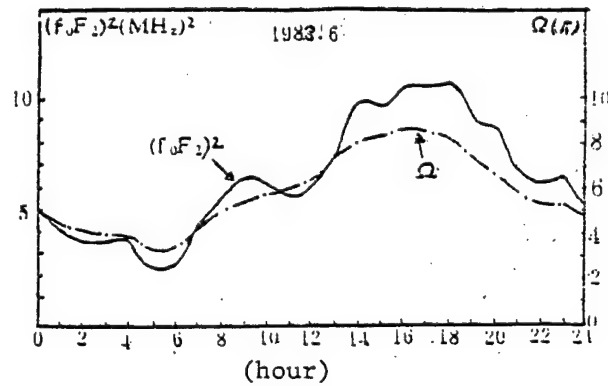


Figure 3. Change of Ω and $(f_oF_2)^2$ with local time

2. The correlation of characteristics SI and $\Delta\Omega$: the statistics of observation records indicate that SI is frequently (2-15)dB, but some also exceed 20dB, and $\Delta\Omega$ is commonly 5°-15°, but some exceed 100°. Using linear regression we can derive the experimental relationship of SI and $\Delta\Omega$ as

$$SI(\text{dB}) = 0.7143\Delta\Omega - 2.3571 \quad (4)$$

and the coefficient of correlation as 0.81. In the formula the unit of $\Delta\Omega$ is degrees, and the unit of the preceding coefficient was dB/degree. Substituting the value of $\Delta\Omega$ derived from formula (2) into formula (4) we can derive the columnar electron content of the accompanying scintillation, its corresponding value is $(1.9 \sim 7.5) \times 10^{15}$ electrons/m². Thus, we know that when the electrical waves are broadcast through the ionosphere, the electrical wave scattering caused by unevenness of the columnar electron content of the layer is an important cause of the ionospheric scintillation created.

3. The correlation characteristics of SI and the expanded lower layer and burst E layer: (i) the correlation characteristics between nocturnal scintillation and the expanded F layer: observational record statistics show that frequently scintillation similar to that in Figure 1(b) occurs, generally between 20:00 and about 06:00 the next day, local time. This scintillation is called nocturnal scintillation, and it is characterized by long duration and large SI. From Figure 2 it can be seen that the changes in rate of appearance of SI and expanded F layer nocturnally, with local time tend to have similar characteristics, the coefficient of correlation between them derived by linear regression is 0.60. This means that nocturnal scintillation is for the most part caused by the expanded F layer. (ii) the correlation between diurnal scintillation and the burst E layer: according to statistics of observation materials, a non-continuous straggling scintillation of short duration was discovered appearing during the day, as illustrated in Figure 1(c). This characteristic may be explained by average behavior of the corresponding burst E layer of a maximum diurnal scintillation of about two hours, as illustrated in Figure 4.

4. Correlation of $\Delta\Omega$ with expanded F layer, and burst E layer: similar analysis can derive that the correlational characteristics of $\Delta\Omega$ with expanded F layer and burst E layer and the correlational characteristics of SI with expanded F layer and burst E layer are similar. The coefficient of correlation of nocturnal $\Delta\Omega$ and the expanded F layer is 0.57; the coefficient of correlation of diurnal $\Delta\Omega$ and burst E layer is 0.53.

[Figure 4, next page]

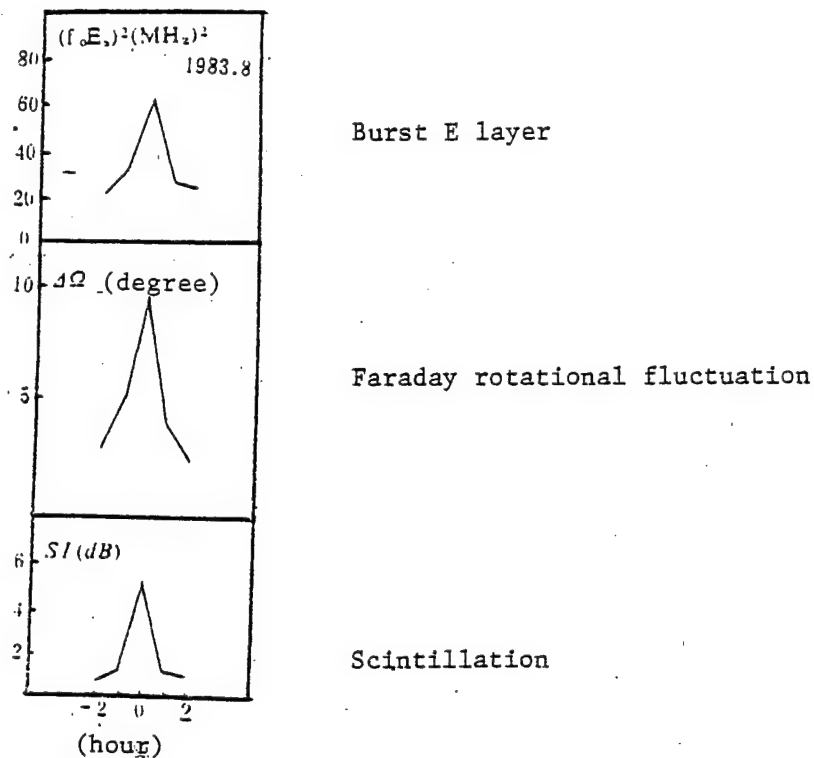


Figure 4. Average changes of f_oE_2 , $\Delta\Omega$, and SI two hours before and after centered around the maximum daytime scintillation

BIBLIOGRAPHY

1. Niino Kenya, et al., DENPAKENSYUSHO KIHO [REVIEW OF THE RADIO RESEARCH LABORATORIES] Vol 27, No 142, 1981 pp 1-15.
2. CICR Rep., 1978, p 263.
3. Titheridge, J. E., PLANT. SPACE SCI., 20, 1972 pp 353-369.
4. Li Jun [2621 6874], DIQIUWULI XUEBAO [ACTA GROPHYSICA SINICA] Vol 24, No 3, 1981 pp 252-256.
5. Whitney, H. I., Aarons, J., and Malik, C., PLANT. SPACE SCI., Vol 17, 1969 p 1069.

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CSO: 5500/4131

PEOPLE'S REPUBLIC OF CHINA

BEIJING PLANS TO EXPAND TELEPHONE SERVICES

HK250357 Beijing CHINA DAILY in English 25 Apr 85 p 3

[Article by Dai Beihua]

[Text] Beijing's telephone service, especially the recently developed residential and public telephone networks, will be expanded this year.

Wei Deming, director of the Beijing Local Telephone Bureau, told CHINA DAILY that improved phone service is a top priority of his bureau this year despite a staggering gap to fill.

The bureau, under the auspices of the Beijing Telecommunications Administration, plans to install 11,000 telephones to help ease the current 40,000 unfilled applications for phone service.

Requests for residential phones have risen sharply, Wei said. Of the present 4,720 family applications for telephones, about 7 percent come from individuals. High ranking cadres and celebrities from all walks of life dominate the application list.

Installation of more residential phones will ease current pressure on public phones, he said. Those with private phones will wait until evening, after work, to place calls. Wei predicted a shift in use that will relieve overworked phone circuits by day.

The public phone system will also be improved this year, he said. The bureau plans to install booths of coin operated telephones along five major streets in the city--Dongdan, Xidan, Changan, Xuanwumen, Chongwenmen and the street in front of the Beijing Railway Station.

As a result of hard work in the first three months, more than 4,000 of the 11,000 telephone quota have already been installed.

"It represents a significant increase in our work load," Wei said. "About 2,000 telephones were installed in the same period last year."

In 1984, the bureau installed a total of 10,000 telephones, four times the number installed in average each year during the entire decade of the 1970s.

A new telephone directory, to be published in July this year, will be updated annually.

"Telephone numbers have been greatly changed," Wei said. "About 50,000 numbers were changed last year. This created problems for people in the city."

Without an up-to-date directory, people have to call directory service by dialing 114; but the line is usually occupied.

Directory assistance operators find their work grueling. The operators handle up to 60,000 calls a day, or an average 204 calls each an hour. Wei said his bureau hopes to install an automated directory system.

Compared to the rapid growth in the national economy, the telephone system in Beijing remains woefully backward, Wei said. Increased commercial activity puts heavier strains on an already over-loaded phone system.

Frustrations abound; callers often find local lines busy or are forced to wait hours to make a long-distance call.

"Our equipment is 1950s-style," Wei said. "But 100,000 switchboards will be installed by the end of 1987 and things will be improved slightly."

Though the bureau has forecast for applications for phone service, but it is difficult to find the exact number.

So at present the bureau is trying to make do. Telephone use will have to be limited. The bureau will change its system of telephone charges in September. The current flat monthly fee for unlimited numbers of calls will be changed to a measured service system, scaling fees to frequency of use. Wei said the bureau hopes the change will encourage people to reduce the number of their unnecessary calls.

CSO: 5500/4136

PEOPLE'S REPUBLIC OF CHINA

TECHNOLOGY IMPORTED TO UPDATE PHONE SYSTEM

OW281114 Beijing XINHUA Domestic Service in Chinese 0057 GMT 28 Apr 85

[Article by Wu Jincai]

[Text] Beijing, 28 Apr (XINHUA)--According to reports from various localities, China is importing more and more advanced technology to speed the process of modernizing its backward telecommunications.

The computerized telephone switchboard, the most advanced telephone switchboard in the world and far superior to the crossbar switchboard currently in use, is one of the hottest import goods.

A plan to import a 100,000-circuit computerized switchboard to update Beijing's telephone network has already been approved by the State, and concrete work is being carried out. The computerized switchboard will greatly enhance Beijing telecommunications capacity both in quality and quantity.

Computerized switchboards have already been installed in the local telephone systems of Fuzhou, Tianjin, Xiamen, Guangzhou, and Shenzhen.

According to reports, computerized switchboards with a total of 700,000 circuits will be imported by various localities.

China has also imported a number of crossbar switchboards which were replaced by updated equipment abroad. These switchboards will be used to improve the telecommunications capacity of underdeveloped areas.

A production line of computerized switchboards imported from Belgium is scheduled to be completed and put into operation in Shanghai at the end of this year. The construction of a production line of all-plastic city telephone cables imported from the United States has already been started in Chengdu. Its production capacity is close to China's total current production capacity of city telephone cables.

Optical fiber circuits, also an advanced technology, imported by Shanghai and Shenzhen will greatly improve the quality of communications between telephone stations.

Changes have taken place in telephones, too. Mobile telephone equipment imported from abroad is already in use in many localities. Other new-type telephones are also replacing old-type instruments.

PEOPLE'S REPUBLIC OF CHINA

BRIEFS

COMMUNICATIONS SATELLITE FUNCTIONING WELL--Beijing, 20 April (XINHUA)--China's first experimental communications satellite has been operating smoothly since it was launched a year ago, an official of the Posts and Telecommunications Ministry said today. Telecommunications services through the satellite have been available for national defense, TV, radio and the press, since it was placed in geostationary orbit by a Chinese rocket last April. The satellite relays radio and TV programs and other data, and since it was launched, viewers in remote border areas, such as Xinjiang, Tibet and Yunnan, have enjoyed instant reception of China Central TV programs. The Communications Department of the Chinese People's Liberation Army Headquarters of General Staff has opened three digital telephone circuits via the satellite from Beijing to Urumqi, Lhasa and Kunming. [Text] [OW201032 Beijing XINHUA in English 0824 GMT 20 Apr 85]

OPTICAL FIBER TELEPHONE LINE--Wuhan, 5 Apr (XINHUA)--A long wavelength optical fiber telecommunications system, with a capacity of 480 telephone lines, passed a ministerial-level examination in Wuhan City on 4 April. The system, with a total length of 13.3 kilometers, has been installed between Wuchang and Hankou, and has been incorporated into the city's telephone network for over a year. The system is one of the major research projects listed in the State's Sixth-5-Year Plan. It was jointly developed by the Design Institute of the Ministry of Posts and Telecommunications and the research and production departments in Shanghai and Chongqing. [Excerpts] [Beijing XINHUA Domestic Service in Chinese 1550 GMT 5 Apr 85 OW]

SHANDONG COLOR-TV PRODUCTION LINE--A color TV production line, the first of its kind in Shandong Province, was completed and put into production at the Qingdao Television Plant on 1 April. The production line was imported from Japan's Matsushita Electric Industrial Co., Ltd. [Summary] [Jinan Shandong Provincial Service in Mandarin 2300 GMT 1 Apr 85 SK]

SHANDONG-SHANGHAI TELECOMMUNICATION EQUIPMENT--Construction of a 120-channel microwave relay telecommunications device between Jinan, Shandong Province, and Shanghai was completed by Jinan Radio Plant No 1. Twelve stations in Shandong have been put into operation on a trial basis. [Summary] [Jinan DAZHONG RIBAO in Chinese 21 Mar 85 p 1 SK]

CSO: 5500/4137

CANADA

PARTICIPATION IN U.S. PLANNED SPACE STATION DISCUSSED

Toronto THE TORONTO STAR in English 21 Mar 85 pp A1, A5

[Article by Val Sears]

[Text] OTTAWA--Canada has launched a \$194 million "space adventure" that will include investment in the U.S. orbiting space station, a cloud-piercing radar satellite and support of a commercial mobile telephone service.

Science Minister Tom Siddon claims the entire program will produce more than \$2 billion in economic benefits and provide up to 9,000 jobs for Canadians by the year 2000.

The initial investment, however, is mainly for the design of space hardware and to continue programs begun by the former Liberal government.

Siddon told a press conference yesterday the space plan is "interim" and promised a full-scale Strategic Space Plan by the end of the year.

He called the interim program a "space adventure."

Space Station

The 1985-86 cost of \$194 million includes a contribution of \$8.8 million to the \$12 billion U.S. space station project, which will give Canadian high-tech industries a chance to bid on servicing, communication and manufacturing components.

The station, likely to take the form of a T-shaped "power tower" with labs and living quarters attached, is said to have no military application. But U.S. critics of the Star Wars missile defence project say it will be a vital part of the research phase.

"We are only interested in the space station's non-aggression applications," Siddon said. He added that External Affairs Minister Joe Clark would shortly sign a memorandum of agreement regarding the station that was consistent with Canada's commitment to the peaceful use of outer space.

The station--which the European Space Agency will contribute \$2 billion toward and the Japanese more than \$1 billion--will serve as a laboratory for space

materials, an observatory, an assembly point for space structures and a transportation hub.

Siddon said Canada was considering several options for participation in the space station.

The first would be a robotic servicing and test facility, likely using the technology developed for the Canadarm in the space shuttle. Another would be in the solar array that would provide primary power.

The third would be a remote sensing facility in which Canada has developed considerable expertise.

The U.S. Congressional Office of Technology Assessment recently called its objectives "diffuse and imprecise."

The Radarsat satellite, to be shuttle-launched late in the 1980's, will cost Canada about \$300 million. The United States, Britain and other international partners will contribute an additional \$220 million.

It will operate in all weathers and provide information on ice forecasting, iceberg and ship location, crop monitoring, forest management and geological exploration.

Private Project

The project has been in the works since 1981 under the Department of Energy, Mines and Resources.

The mobile satellite communications system, called M-Sat, is a private sector project with the Canadian lead role played by Telesat Canada, which operates communication satellites for industry.

When the satellite and ground communications facilities are in place by 1990 Canadians will be able to reach mobile stations in the most remote parts of the country as well as ships, aircraft and cars.

Communications Minister Marcel Masse said private industry in Canada is expected to contribute about \$400 million to M-Sat development. The government's role will be in support of ground terminal development and testing.

"Telesat Canada has submitted a comprehensive business proposal to my department," Masse said "and financial support is being requested to limit the business risk to Telesat in such a large undertaking."

20,000 Users

He said the issue cannot be resolved until business and regulatory arrangements are further along.

There are expected to be about 20,000 users including fire departments, forestry services, trucking companies and fishing fleets when M-Sat becomes operative.

Meanwhile, opposition critics were skeptical the interim space plan is either new or free of problems.

Liberal science critic David Berger said it was simply a matter of carrying on programs created by the previous Liberal government.

New Democrat critic Michael Cassidy said he was particularly dubious about the space station investment.

"I don't want to see this used as a back door to get Canada onside with President (Ronald) Reagan's Star Wars research," he said. "Parliament has to see what the agreement will entail".

He said he also wanted to know what other science projects would suffer from this "large new commitment to space."

CSO: 5520/33

CANADA

ANIK SCRAMBLING SERVICE, SATELLITE MALFUNCTION REPORTED

Customer Scrambling Service

Toronto THE GLOBE AND MAIL in English 15 Mar 85 p B14

[Text] Telesat Canada Ltd. is offering a signal scrambling service to its security-conscious customers on a one-year trial basis. The service is available to customers using any of Telesat's Anik series satellites on an occasional-use basis.

The company said it expects to have four main classes of users, including broadcasters wishing to black out certain sports events and news agencies seeking security of their transmissions. Video teleconferencing customers seeking privacy and pay TV operators are also considered to be possible users.

Telesat Canada, the country's only commercial satellite company, said the trial will allow customers to experiment with the advantages of scrambling and let Telesat assess demand and technical considerations.

D2 Satellite Malfunction

Toronto THE GLOBE AND MAIL in English 21 Mar 85 p 22

[Text] OTTAWA (CP)--Telesat Canada's newest satellite malfunctioned earlier this month and it had to use up precious fuel getting back on station, the company yesterday.

A release from Telesat Canada said the Anik D2 communications satellite, which was placed into earth orbit from the space shuttle Discovery in November, began malfunctioning on March 8.

During the malfunction--or spin-up in technical jargon--the satellite's antenna rotated away from its position pointing at earth. An automatic stabilization system on board fired one of its rockets, using part of the fuel supply.

Telesat Canada said the satellite also had to use fuel to restore it to its proper position and the combined firings cost the satellite about 14 months worth of fuel.

The Anik D series of satellites carry an eight-year supply of fuel for station-keeping.

Anik D2 has never been commercially used. It was launched last year and put into a storage orbit projected to last until December, 1986, when Telesat's Anik B satellite is to be retired. The release said Anik D2 will now likely operate for 14 months less than the intended eight years.

Apparently, the spin-up was caused by a component which malfunctioned. The company said that other systems on the satellite should ensure its proper future operation.

CSO: 5520/33

CANADA

THIRD QUARTER RESULTS GIVEN FOR MAJOR TELECOMMUNICATIONS FIRMS

Toronto THE TORONTO STAR in English 12 Mar 85 p B11

[Text]

OTTAWA (CP) — Operating revenues of the major Canadian telecommunications companies were up 6.2 per cent in the third quarter of 1984 from the same period in 1983, Statistics Canada reports.

The figures for CNCP Telecommunications Inc. and Teleglobe Canada Ltd., which together control the lion's share of the country's telecommunications industry, show total operating revenue of \$136.6 million in the third quarter of 1984, up from \$128.6 million in the same quarter in 1983.

Cumulative revenue for the first three quarters rose to \$413.2 million from \$375.5 million in the comparable period in 1983.

Operating expenses were also up slightly, but net revenue for the third quarter increased 10.4 per cent to \$37.6 million.

Capital expenditures for the companies continued a declining trend to \$30.4 million during the quarter, down from \$39.7 million a year earlier.

For the first nine months of the year, capital spending slipped to \$89 million from \$121.2 million during the first three quarters of 1983, the federal statistical agency said yesterday.

CSO: 5520/34

CANADA

GLENAYRE ELECTRONICS REPORTS RADIO SYSTEMS DEAL WITH PRC

Vancouver THE SUN in English 5 Mar 85 p C2

[Text]

Glenayre Electronics is spending more than \$5 million to get a \$500,000 toehold in the vast China market.

The company announced Monday it has signed a letter of intent with the Chinese government and a Chinese factory to install as soon as possible two mobile radio systems and one radio paging system, to be followed up by a long term joint-venture plan for assembling mobile telephone heads in China.

The initial installation is worth about \$500,000.

A key part of the deal is Glenayre's acquisition of WR Communications Ltd., Canada, and WR Communications Inc. WR base stations and transmitters will be used in the China project.

Company president and chief executive officer Klaus Deering said Glenayre made the acquisition because, while Glenayre is familiar with the base-station technology, WR is expert in it. "We couldn't do it fast enough ourselves."

He said the WR deal, covered by another letter of intent, will cost "probably in excess of \$5 million — the details have not been worked out yet."

WR sales are currently "in the low seven-figure volume in the Canadian, U.S. and other international markets," according to a company press release.

According to the release, follow-on orders for further terminals will be filled in Canada "for some time."

Export/import permits and final financial arrangements are not yet in hand, however, "rarely does a Chinese ministry enter in a letter of intent without its later completion," says the release, which adds that the deal could have a "significant impact" on Glenayre.

Deering said the scope of the China deal is incalculable. "Nobody knows. How many Chinese are there?"

CANADA

BRIEFS

MITEL SX-2000 SYSTEM AGREEMENTS--Mitel Corp. of Kanata, Ont. has signed agreements authorizing another three U.S. companies to sell and service its SX-2000 business telephone switch--Com Tel Communications Corp. of Dallas, Etco Communications Inc. of Amyteville, N.Y., and Interconnect Telecommunications Systems of Louisville, Ky., will sell the switch. Mitel now has agreements with 10 U.S. major account dealers. A Mitel spokesman said the company has received firm orders from the dealers for 36 of the SX-2000 systems since Jan. 1. She also said Mitel expects to sign agreements with several more dealers in other U.S. regions. [Text] [Toronto THE GLOBE AND MAIL in English 1-Mar 85 p B15]

RESEARCH GRANT TO TRILLIUM--Trillium Telephone Systems Inc. of Kanata will receive assistance from the Department of Regional Industrial Expansion for research and development. The assistance could amount to \$1.72-million, Trillium said. The contribution will be used in development of a future-generation electronic key telephone system. It covers a three-year period retroactive to February, 1984, and is repayable only after successful sales of the products being developed. [Text] [Toronto THE GLOBE AND MAIL in English 7 Mar 85 p B16]

CSO: 5520/34

BRAZIL

SEI PLAN LIMITS IMPORTS BY MULTINATIONAL FIRMS

Rio de Janeiro O GLOBO in Portuguese 24 Mar 85 p 39

[Text] Brasilia--The establishment this year of quotas for multinational firms importing data-processing equipment, market protection for the national micro-electronic industry and the development of a Brazilian software program (computer program) with government assistance are some of the proposals of the National Data-Processing Plan to be discussed at the first meeting of the National Data-Processing Council (CONIN); the date of the meeting has not yet been established.

The plan, 800 pages long, outlines the goals and objectives to be pursued by our national industry in all areas in which computers are used. With the title "Subsidy for the National Data-Processing Plan," it was drawn up by the Special Secretariat for Data Processing (SEI) at the end of the Figueiredo administration and, after being analyzed by CONIN, is to be submitted to the National Congress by October.

This is the first time that a governmental document deals with the social repercussions of the "computerization of society" and suggests that the workers participate in the discussion of the appropriation of the benefits of this type of automation.

Among the objectives and goals proposed by the SEI are the development of national software with the aid of the Federal Government which would buy at least 5 percent of the Brazilian products per year and the suggestion that Brazilian data-processing firms in general should participate as much as 75 percent in the billings of the domestic market.

Here are the principal points of the study:

Public Area

Although it was ascertained that "the number of national data-processing installations is increasing significantly, 81 percent of the data-processing equipment being used in the Federal Government area is of foreign manufacture." With the objective of replacing imported equipment, increasing productivity and reducing the development of foreign software in favor of products developed by domestic companies or

available on the market, the document suggests that mechanisms for a government purchasing policy be made explicit. It also proposes that uniform measures be adopted in the contracting of funds and data-processing services by the various departments of public administration.

Automation of Services

To strengthen domestic companies in the manufacture of products for the automation of services, the document proposes that a plan be drawn up over the short term for the implementation of a national interbanking network; that a proposal be presented for new legislation on micrography; that a national code of products for commercial automation be devised; and that mechanisms be created to follow up and control adherence to standardization procedures defined by communication protocol.

Microelectronics

According to the document, the success of the national policy of microelectronics depends on coordinated action by the federal administration. It points out that "the demand generated by the automobile industry is of great importance to our national microelectronics firms," and it therefore recommends that component projects be carried out in the country. It also suggests that the implementation of the national microelectronics industry should include absolute decision-making autonomy on the part of the domestic firm in technological contracts and agreements signed abroad and that our national companies be permitted to have their own definite program of investments, development and technological capability.

General Use

The basic objective of the plan in this sector is to limit imports of products not manufactured by local industry and reduce the dependence of our consumers on the suppliers. For this purpose, it suggests the consolidation of the activities of the Computer Institute of the Technological Center for Data Processing. The document stipulates that, beginning this year, multinational firms must negotiate their import quotas and suggests that national firms have at least 75 percent participation in the billings of the domestic market.

Software

Emphasizing that Brazil is not self-sufficient in the development and production of software, the document suggests that national software participation be increased each year to the extent of 5 percent of the total contracted by the federal public sector. It also proposes the establishment of legal mechanisms for the control of software imports as well as disciplinary measures pertaining to domestic marketing.

Teletype Equipment

Inasmuch as telex terminals will continue to be one of the most significant markets of our national industry according to the document, SEI suggests the standardization--through Brazilian norms--of national protocols for the computer network.

Full Duplex Teletype (FDT)

SEI's basic objective is to improve the criteria covering the control of the flow of information through an examination case by case of international data-communication connections. To accomplish this, it proposes the regulation, in the national data-processing policy, of specific aspects of the FDT and the registration of foreign data bases of economic or strategic interest to the country.

Data Base

Warning that Brazil's problems in this respect include "secrecy and the nondiffusion or economic exploitation of information," SEI suggests that public access be given to government data bases of interest. It proposes that a draft bill be presented to the National Congress for the production and exploitation of data bases.

Data Protection

With a warning about the nonexistence of norms relating to the protection of data used by the public administration, the document proposes that procedures be implemented which will give emphasis to the security of the computer and of communications in general.

Military Data Processing

Pointing out that Brazil is the fifth largest exporter in the world of military equipment, exports of \$3.5 billion in 1984 and reporting total invoices amounting to about 10 trillion cruzeiros, SEI suggests the standardization of communication protocol among military systems handling information.

Manufacturing Automation

Having the prospect of increasing this market at a rate of 30 percent per year, the plan proposes the training of technical personnel in this sector and the establishment of engineering firms to devise quality-control systems.

Process Control

With the aim of reducing the vulnerability of productive processes to eliminate the bonds of "total technological dependence in industrial processes such as those used in steel metallurgy, petrochemicals and

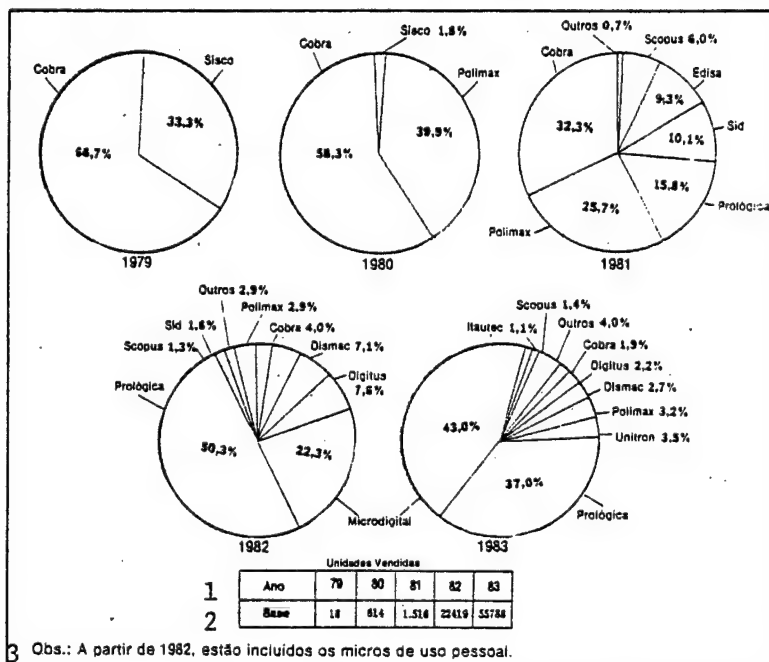
general chemistry, the document suggests that these strategic sectors carry out their own domestic plans for technological capability.

Instrumentation

Recalling that the prices are more attractive in the foreign market for the purchase of this type of equipment, the plan suggests that national competence in research and development be consolidated in this sector through the establishment of centralized mechanisms to coordinate the government's activities.

THE NATIONAL FIRM MARKET

O MERCADO DAS EMPRESAS NACIONAIS



Key: 1 Year; 2 Base; 3 Note: Figures from 1982 include minicomputers for personal use.

Observation: from 1982 on, minicomputers for personal use are included.

Sales Growth This Year to Hit 30 Percent Above Inflation

The data-processing market this year is expected to show a real growth (above inflation) of 20 to 30 percent, representing a like increase in the participation of national firms in the market which, from 1979 to 1983, increased 46 percent in terms of invoicing and about 50 percent in the sales of the domestic market.

This information is contained in the National Data-Processing Plan in a chart showing the transition from the market-reserve policy to future prospects based on a strengthening of our national industry.

According to the SEI, about 140 national companies are operating in this market and, in 1983, invoicing amounted to \$800 million compared with \$687 million reported by the multinational firms. The minicomputer market (where the market reserve is institutionalized) proved to be the most competitive.

Minicomputers, which until 3 years ago were the apple of the eyes of multinational firms--before national exclusiveness was established for production--experienced about 18 percent growth in 1983, the lowest growth rate in cruzeiros.

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CSO: 5500/2059

BRAZIL

COMPUTER SALES TO USSR VIEWED

PY302210 Rio de Janeiro O GLOBO in Portuguese 27 Apr 85 p 20

[Text] Brasilia--The industrialized countries are going to exert pressure on Brazil in an attempt to keep it from participating in the international call for bids to be made by the Soviet Union, which is interested in purchasing 70,000 microcomputers. This message was disclosed yesterday at the VII Regional Computer Congress by Claud Cellier, director of the French Foreign Industry and Commerce Ministry's International Affairs Department.

Cellier said that by calling for international bids, the Soviet Union intends to have access to the Western world's technology, which is banned to members of the socialist bloc. The Brazilian microcomputers include several components produced by the industrialized countries, therefore, Brazil cannot become a means of access to that technology.

Cellier said that the French Government does not impose any restrictions on the quantity or quality of imports, but it does restrict exports as do several European countries that participate in the technological embargo requested by the U.S. Government.

Henri Bustarret, director of the Industrial Affairs Department of the French Telecommunications Ministry, said that the cooperation programs between the Brazilian and French enterprises will be expanded in the areas related to telecommunications, software (computer programs), and supermicrocomputers. According to Bustarret, contact has already been established for this purpose with three Brazilian enterprises, but he refused to mention any names. Bustarret recalled that a cooperation agreement between the two countries was signed in 1975, but said that it needs to be intensified.

CSO: 5500/2071

COLOMBIA

BRIEFS

U.S. SATELLITE PLACEMENT PROTESTED--Bogota--Colombia has protested to the United States over the placing of a private U.S. firm's satellite in Colombia's geostationary orbit. Foreign Minister Augusto Ramirez Ocampo has stated that the satellite was placed in orbit secretly since the firm did not present a request to the interested nation, in accordance with international legal procedures. The foreign minister said that [words indistinct] corporation [preceding word in English], the U.S. firm, placed the satellite in an orbital space that Colombia claims as its own. The situation was denounced before the United Nations Legal Subcommittee for Outer Space by Ambassador Ernesto Rodriguez Medina. According to the diplomat, it is the very same orbit where the U.S. firm's satellite has been placed that there are plans to install Colombia's Satcol satellites in the future. [Text] [Bogota Emisoras CARACOL Network in Spanish 1215 GMT 11 Apr 85]

CSO: 5500/2065

INDIA

SATELLITE LAUNCHING PROGRAMS REVIEWED

BK251412 Delhi THE HINDUSTAN TIMES in English 19 Apr 85 pp 1, 16

[Text] New Delhi, 18 Apr--The launch of the first Indian 150-kg satellite atop the indigenous Augmented Satellite Launch Vehicle (ASLV) has been set for September this year, three months behind schedule.

The performance budget of the Space Development for 1985-1986 released here today says that the delay has been caused by the damage inflicted on the launch centre, SHAR [Shriharikota Range] at Shriharikota on the Andhra coast by last year's cyclone. The cyclone damaged operational buildings, submerged the road connecting SHAR to mainland and disrupted the power supply. The damage is estimated at Rs 4 crore and the facilities damaged are being reconstituted.

With the launch of the Stretched Rohini series of satellites of 150-kg atop the ASLV, the space programme moves to the next important phase after the SLV-Rohini development. The ASLV marks a new series of launch vehicles with strap-on boosters at the first stage (each booster equal to the first stage of SLV-3) and a liquid propulsion second stage.

It would open the way for the first reality large size Indian rocket, the Polar Satellite Launch Vehicle (PSLV) with payload capability of one tonne satellites to be placed in precise orbits.

While the sanctioned cost of ASLV is Rs 19.73 crore, that for the PSLV which would be ready by 1988 is Rs 311.52 crore. A special launch facility for PSLV at a cost of Rs 25 crore is to be developed.

The steady growth in the Indian capability of designing and making larger and larger size rockets 'or launch vehicles' has also meant opening of new facilities for their testing and construction and related activities. While a new facility is being opened at Mahendragiri in Tamil Nadu specially for liquid and solid propulsion systems, a new facility is coming up at Vellamalai near the Trivandrum establishment of the Vikram Sarabhai Space Centre, for the avionics and rocket structural group.

The Performance Budget also reveals that by the end of the current decade India would acquire capability of indigenous design and construction of both the communication-meteorology INSAT [Indian National Satellite System] satellites and the natural resources sensing IRS satellites. It would also acquire the capability of putting the IRS satellite into orbit with its own launch vehicle.

This would take the country into the next phase of development in the 1990s when India would not only have separate series of INSAT and IRS [Indian Remote Sensing] satellites but would, by the middle of the decade, have capability of designing and launching the Advanced Communication Satellite with enormous increase in communication, television channels and very high radiation mapping of the upper atmosphere for meteorological purposes. This advanced communication satellite would also be launched with the high payload capability of Indian launch vehicle, Geo-Satellite Launch Vehicle.

CSO: 5500/4731

INDIA

BRIEFS

SECOND BOMBAY TV CHANNEL--In Bombay, a 1 TV transmitter was inaugurated by the minister of information and broadcasting, Mr V. N. Gadgil, today. It will be used for the second channel for the Bombay Doordarshan [television] center. The new transmitter, which will operate on Band 3, Channel 6, will cover a range of 40 kilometres. [Text] [Delhi Domestic Service in English 1230 GMT 1 May 85 BK]

CSO: 5500/4733

NEPAL

KATMANDU-BEIJING DIRECT SATELLITE TELEPHONE LINE PLANNED

Katmandu THE RISING NEPAL in English 8 Apr 85 p 1

[Text] A strengthened bilateral cooperation in the field of communications could help promote the contacts and mutual understanding between China and Nepal and the two peoples.

According to Beijing date-lined report of Xinhua this was voiced by Chinese Vice-Premier Li Peng and Minister of Communications Rudra Prasad Giri when they met in the Chinese capital Saturday afternoon. Chinese Minister of Posts and Telecommunications Yang Taifang and Royal Nepalese Ambassador to China Guna Shumsher Jung Bahadur Rana were present at the meeting.

On Saturday morning, Yang Taifang and Giri signed a summary of talks on which the two sides agreed to set up a direct satellite telephone line between Beijing and Kathmandu as soon as possible.

Minister Giri and his party arrived there on April 3 as guests of the Chinese Ministry of Posts and Telecommunications.

Meanwhile, the Nepalese delegation left Beijing for Shanghai Sunday.

the delegation which is on a ten-day visit to China is returning home via Hong Kong on April 13, according to the Foreign Ministry.

Royal Nepalese ambassador to China Guna Shumsher Rana had hosted a dinner in honour of Minister Giri in Beijing Saturday.

Chinese Minister of Post and Telecommunication Mr Yang Tai Fang and Vice-Minister Wu Jichuan, other high ranking officials of the Chinese Ministry of Post and Telecommunication and Ministry of Foreign Affairs, deputy chief of Xinhua news agency, members of Nepalese delegation and Royal Nepalese embassy attended the dinner (RSS).

CSO: 5500/4729

ANGOLA

ENATEL FACES DIFFICULTIES WITH TELEPHONE NETWORK

Luanda JORNAL DE ANGOLA in Portuguese 9 Mar 85 p 3

[Text] The question of the telephone networks of Luanda as well as those of other localities is again arousing a certain "interest" not only because of the defects in their operation but also because of the stage by stage successes achieved in the whole process of revitalization and modernization of the network lines installed up to now.

JORNAL DE ANGOLA contacted the National Telecommunications Company (ENATEL) through its director general, Engineer Jose Matos for a possible explanation of some questions about the complex system of operation in which the company is involved as well as some general comments on its assertion in the country's socio-economic development, the principal successes achieved and its difficulties.

The Country Has About 64,500 Network Lines

Attached to the Ministry of Transports and Communication, ENATEL has 46 branches spread out over all the provinces in the country. Its personnel department lists 1,800 workers, 900 of whom work in Luanda.

To assess the high degree of responsibility of assistance and maintenance which ENATEL is obliged to meet with regard to the technology and practice most appropriate for efficient communication, we can confirm that the number of installed lines exceeds 64,500; of this number, 54,000 are leased.

Due to its particular nature as the capital of the nation, Luanda is where ENATEL has done more intensive work. There are 41,000 lines installed here and, with some exceptions, fully operational.

In Luanda also, the requests for the installation of telephone lines exceed 20,000; their implementation is conditioned on the revitalization of the two automatic centrals which have been at full capacity for a long time.

Complaints of Some Subscribers

Part of the population of these areas does not have a network, resulting in a thousand complaints of various types.

In a view of the existence of a large number of damaged or simply cut lines, some people may consider ENATEL's activity to be negative. The more sensible perhaps will say that it needs greater support.

Meanwhile, up to the moment, its work may be considered notable and crowned with great success despite the existing difficulties.

According to Engineer Jose Matos, the director general of the company, "In Luanda, since 1980, there have not been large investments in terms of expanding the lines and their operation.

"ENATEL has turned with great perseverance toward the interior of the country, formerly completely discriminated against in this area.

"During the period of the second war of liberation, the transmission systems were almost completely destroyed, the centrals being completely abandoned following the flight of the Portuguese staffs, principally. In 1975 staffing was less than 40 percent. By 1980, it had reached 70 percent, rising to about 80 percent in 1983."

Always More Difficulties

Although ENATEL is suffering difficulties of various types, such as the lack of trouble support vehicles and technical maintenance, being an operating company it is planning the establishment of an operations center with the assistance of a Brazilian telecommunications company, with the starting date scheduled for 1986. There will be a new restructuring of the organization and discipline in the work to be performed, thus relieving the concern of many subscribers.

With only four vehicles, the National Telecommunications Company has faced many problems connected with the constant battle against time, speed and efficiency in its work.

Its director general made the following admission about the serious problem: "The number of installed lines in Luanda exceeds that of many African countries. According to some statistics, at least one vehicle appropriate for the purpose is needed for each 1,000 installed telephones."

8711

CSO: 5500/123

ANGOLA

RURAL AREA COMMUNICATIONS CONTRACT SIGNED WITH GDR

Luanda JORNAL DE ANGOLA in Portuguese 12 Mar 85 p 3

[Text] A telecommunications contract between the National Directorate of Posts and Telecommunications and a service company from the German Democratic Republic, the VEB Elektro-Consult, was initialed last month by their highest level officials, Engineer Guimaraes and Dr Manfred Tietze, respectively.

The 12-month contract is part of the program prepared in the International Communications Year of 1982, the crucial phase of which is the implementation of prospective studies, technical communications development plans, investigations and other telecommunications projects in various potentially strong areas in the fields of the country's agricultural-livestock and industrial development, Engineer Guimaraes told JORNAL DE ANGOLA.

For the practical implementation of this important contract in Uije Province, Angolan and German technicians are going to study the technical-economic feasibility to serve the networks of complexes and territorial coffee companies as well as other productive units which, because of their importance in this process of revitalization of the national economy and their geographical location, will have to have efficient communications services with the urban centers.

Thus, the study of a communications network for Uije Province for the period until the year 2000 is going to be undertaken. After the strict fulfillment of this and other contracts, a survey is going to be undertaken of the whole interconnecting system in all the municipalities and communes where strong and efficient communications are necessary, starting from the capital, which is the center of a provincial network.

8711
CSO: 5500/123

CAMEROON

PREPARATION FOR NATIONWIDE TELEVISION UNDERWAY

Dakar AFRICA in French Mar 85 No 170, pp 31-33

[Article by Ama dan Goleda]

[Text] It's official! The Cameroonians will have their small screens this year. However, not everything we see on this television will be in living color!

Cameroon is very late in coming to accept the audio-visual mode of communication, and, as has happened elsewhere, television here may well have missed its opening date.

By the end of 1985, Cameroon will actually have nationwide network TV coverage, according to the latest studies, despite the country's incomplete electrification and the inadequacy of the national transmission system.

The yearning it evokes among the Cameroonians, one of the few African countries without TV these days, gives us a foretaste of the welcome that awaits its advent.

Even now, there is a trend toward video and ... porno cassettes! Of course, the VCRs are also used for recording more family-oriented events such as weddings, christenings, and the like...

There has been a flourishing VCR black market since 1980 in the urban neighborhoods where, according to the customs office, 80,000 residences have it. The VCR is the latest gadget, and has replaced the luxury car as a status symbol.

You have really "arrived" when you own a complete videocam system.

The price of a VCR, which used to run well over 750,000 CFA francs for the broad-band system, has dropped to less than 300,000 CFA with the advent of the new cassette equipment. One major department store in Douala, in April 1979, was advertising the sets at prices ranging from 260,000 CFA cash to 300,000 on credit, with the top of the line priced at around 450,000 CFA.

Every time Cameroon Airlines' Paris-Douala flight lands -- which is to say almost every 24 hours and thus several times each week -- VCRs enter the country illegally, not to mention the blank or pirated tapes shipped from the major western cities where friends or relatives (white or Cameroonian) eagerly hone their skills as audiovisual technicians. Nothing to declare at Customs. It all goes on in full view of everybody, yet nobody raises a finger. Among the latest amenities offered by video cassettes, we might cite; acceleration, slow motion, and even freeze-frame. None of these "fancy frills" interest the Cameroonian video fans, however.

Most of the systems have a button that lets you black out commercials or sequences deemed undesirable. Even so, the cassettes we get from friends living in France or in England include commercials from the BBC chains or from French TV. The commercials, which range from pitches for "Panzani Pasta" to "Mr Sunflower," provide amusement for the children and even the grown-ups, and they include editorial commentary along the lines of "The French are too fond of eating," "American women don't know how to dress," etc.

Plugged In

It must be admitted that the Cameroonians are actively preparing for the arrival of television, which will soon round out the ICC network, already installed here and there throughout the country. And a great many among the intellectual elite have already begun work on installing the first links. Built around the TV station, it allows every individual and every household to tune in, to enjoy greater independence of the state-run media (radio and the print media), to encourage the inventive mind, because one of the great innovations of video, in some instances in Cameroon, has been to transform family members into TV stars. We all know how it is done: all it takes is a video camera attached to a portable tape recorder that will record the images and sound on a cassette. The advantage: no development, no projector, no screen needed. You can watch the film you have just shot in your own home, on your own TV set.

As for cassette sales, animated cartoons account for a good share of the 20 to 30 titles in the family collection. Other cassettes may be rented, or one can simply go to the video club and watch them.

In the related domains of education and information, video is invading just about every sector.

Night clubs use it to add pizzazz to an evening by screening soccer matches, reggae music with Jamaican singer Bob Marley and the Wailers. Even so, the connoisseur can find fare on the Cameroonian or European market to enable him to put together programs to please his family's tastes, all the way from "Laurel and Hardy" to "Flic Story" via Jean Cocteau's "Blood of a Poet" and all the detective films you can think of, etc.

Getting back to the level of education, news, and public service, the Ecole Normale Supérieure (Advanced School of Education), the University Center for Health Sciences (CUSS), which is the equivalent of the University Medical School, the Ecole Supérieure des Sciences et Techniques de l'Information (the Advanced School for Communications Sciences and Technologies) (ESSTI), the Rural Pedagogical Institute, the Advanced Polytechnic School, the National Technology School, the Faculty of Sciences, etc., will all have their own closed-circuit TV systems.

The first national television images should be appearing shortly. Last May a training seminar for the people who will train the people who will be running the national TV system watched the emergence of the profile of the men who will be manning the TV jobs. That laid the foundations for courses to be offered in a National Institute for Audiovisual Technology (INATA), which will open its doors early next October with a faculty of 13 producer-directors, 13 production assistants, and 33 program editors and hosts.

Meanwhile, several Cameroonians are learning their trade (all aspects included) at the International Center for TV training in Berlin. Another scholarship program for advanced specialized training, to last 3 years, is planned for the end of 1984 in the FRG.

At the purely political level, President Paul Biya signed a decree on 12 May 1984 establishing a special group to coordinate TV planning.

The members of this coordinating body were appointed by presidential order on 14 July 1984. It includes: a coordinating committee, the TV unit (12 members), and the technical control units (24 members).

This TV planning coordination group has been from the outset the target for harsh criticism from film-makers and other Cameroonian artists (theater and dance, notably).

The prime complaint the creative people lodge against the government is its appointing only politicians and technocrats to the group. Cameroon's artists allege that the appointees are incompetent, ignorant, and have no understanding whatever of artistic concerns. The artists contend that the national color TV system should establish an audio-visual and popular tradition center. It is noteworthy that no film-maker, no dramatic artist, no artist, in short, belongs to this coordinating unit, and that may perhaps explain some unquestionably exaggerated criticism.

The irrepressibly hot-headed director J.P. Dikongue-Pipa, in the course of a "Sunday Noon" round-table broadcast, waxed wroth at the way Cameroon's artists had been shut out of this TV plan. "After all, when you come right down to it, it is because of the creative people, the variety artists, the dramatic artists, and

the directors and producers that the public will decide to buy or not to buy TV sets to watch our TV programming," he pointed out. And in fact one dare not completely ignore the artists' comments on this score.

It cannot be repeated too often that it is thanks to radio and TV that cultural information is developed, by broadcasting and televising great works, by encouraging debates, by using all the multifaceted forms available to conduct a dialogue with the public. The point that is least often made, but which nonetheless is of paramount importance, is that by taking this approach, the media (including national television) will be helping to demolish the major roadblocks that have for so long stood as obstacles to cultural development in Cameroon and which are psycho-sociological in nature: the deeply rooted and often concealed conviction that culture, in this country, is for the rich, for the educated few.

In Cameroon, relations among the cinema, the theater, and television will certainly undergo some far-reaching transformations that will threaten the public-service tradition of Cameroon's radio and TV in general and of national TV in particular.

If we are to understand the nature of these disturbances, we must first gain a clear understanding of the economic relations that affect the theater, television, and the cinema.

As of this moment, all the Cameroonian institutions working for the theater and the cinema at the economic level, notably that of the creative process, are wasting away: I am talking about the Fund for Movie Industry Development (FODIC), the Cameroonian Copyright Protection Society (SOCADRA), and the National Theater (see AFRICA, No 155, November 1983). We are told of staggering numbers of bootleg video clubs and some 30 or so legal video cassette rental shops, but also renting such cassettes routinely pirated in Nigeria, Ivory Coast, and even Cameroon. Daily rentals range from 1,500 to 2,000 and 2,500 CFA francs per week. You can buy a pirated copy for 18,000 CFA. All these shops are doing a land-office business with sales of more than 10,000,000 CFA per week. The crowds at these shops on Fridays and Saturdays are so big that a shop may have its shelves practically emptied over the week-end. The Information and Culture Ministry, the agency responsible for licensing video clubs, is so far behind in processing applications that it has partially lost control of the situation. Be that as it may, regularizing theater-cinema-television relations with video interposed cries out for government intervention; it is incumbent on government to correct the distortions in a union flawed by a perverse cultural policy.

In Cameroon, the vital issues of the theater, the cinema, and even of music go unsolved, as do those too seriously raised by radio and by the print media. And yet it is these branches upon which television must rely if it is to endure as a dynamic medium.

Strict censorship and the halt in domestic production has thwarted young Cameroonian film-makers.

Even before it sees the light of day, Cameroon's national television is already threatened with a crisis of exceptional dimensions.

We are still dreaming of a television system. Yet, although we are witnessing the creation of the appropriate institutions, there is still no basic legislation that can maintain order in the profession inherent in all the branches of television, the cinema, the theater, and music.

The government and the legislature will perhaps allow themselves to be intimidated by this paradox but, whatever solution emerges, nothing will be settled so long as our dramatic and variety artists, our film writers, the other creative people and editors fail to regain a dynamic perception of their calling, one scaled to the insatiable demand for programming which the advent of television is inevitably going to stimulate in the next few years.

6182

CSO: 5500/131

CAMEROON

RENOVATION, EXTENSION OF TELECOMMUNICATIONS SYSTEM

Dakar AFRICA in French Mar 85 No 170, pp 57-60

[Text] Telecommunications in Cameroon is organized along the following lines: while the Post Office and Telecommunications Ministry manages the domestic system through a Directorate of Telecommunications, a company has been set up to operate the international system of communications originating in Cameroon.

It all began when Intelcam first saw the light in 1972. Initially its status was that of a mixed-economy corporation in which the Cameroonian State held a 60-percent interest, France-Cables held 30 percent of the stock, and the British Cable and Wireless Company, Ltd. held 10 percent of the stock.

Within 5 years, Intelcam's capital rose from 500 million francs to 1,350 million CFA francs via incorporation of a portion of the special reserve.

In 1982, pursuant to the agreements that established Intelcam, the Cameroon government bought back the shares held by its European partners and thus became a State-owned company capitalized at 4,443 million CFA francs.

Since it began operations, Intelcam has done a remarkable job. A troposphere link between Gabon and Cameroon made possible total automation of telephone communications between these countries.

In 1973, the ground station for satellite communications at Zamengoe came on line. The Class 2 (CT2) international telephone transit came on line in April 1979. Thanks to that center, Cameroon today has automatic connections with more than 100 countries in Africa and world-wide.

Since 1975 the Zamengoe facility, owing to its array of services and the quality of its equipment, has been selected by the International Satellite Telecommunications Organization (Intelsat), as partial remuneration for the installation of the first remote-controlled tracking, telemetry, and satellite surveillance (PTT&S) station. This PTT&S station is currently the only one of its kind

in Africa, and there are only seven stations of its kind in the world.

In addition to an International Manual Center (CIM) which forwards semi-automatic calls placed by users, another electronic exchange for national and international Telex communications has been in operation at Yaounde since 1979. Tied into it are a dozen or more towns and cities in Cameroon. Two telephone centers equipped with telephone booths and telex equipment are open daily from 0800 to 2000 hours in Yaounde and Douala.

To expand these services, not only is Intelcam going to acquire very shortly an imposing 15-story building annexing its present premises, but also a new international communications center almost the equal of the one at Yaounde is now under construction at Douala. Yaounde will get an automatic terminal, while Douala will get a national and international telex center with a 2,000-line capacity. Douala will also have a ground station for satellite communications.

As is already happening in most countries, the International Telecommunication Union (UIT) has designed a plan for Cameroon whose first goal is to reorganize the Post Office and Telecommunications administration, and transform it into a financially autonomous office. This study also calls for replacement of a portion of the system which is already in a state of deterioration.

Cameroon's fifth 5-year plan includes some 50 projects designed to beef up the national and international communications system. That project is destined to get 46 billion CFA francs in funding.

In another area, construction of several urban telephone exchanges and telephone-line systems has been contracted with the Thomson company, which is also in charge of installing the color television system which is scheduled to be operational by June 1985.

Since West Germany's Pal system was selected by the Cameroonian government, Siemens will be in charge of production, while Thomson-CSF will handle broadcast. Total cost of the operation has been estimated at 13.5 billion CFA francs.

6182

CSO: 5500/131

IVORY COAST

LOCAL ONT NETWORK ESTABLISHED

Dakar AFRICA in French Mar 85 pp 53-55

[Text] In June 1984, three important measures were adopted to assure a brighter future for Ivory Coast's telecommunications.

The first of these measures dissolved the old Postal and Telecommunications Office, the second abolished the Long Distance Communications Company (INTELCI), and the third established the National Telecommunications Office (ONT).

ONT's mission is to operate telecommunications infrastructures, both in the operation of the government monopoly and in participation in the international telephone systems of which Ivory Coast has been a member since 1883...That was the year they laid the submarine cable linking Grand-Bassam to Cotonou.

ONT is also responsible for enforcement of the law and regulation in the sector, and its mandate includes preparations for and execution of plans in the area.

This latter point is of particular interest to us these days because among its vast range of concerns is the no less herculean assignment of rehabilitating the local telephone systems.

In administering the program, ONT is expected to perform with the competence unanimously attributed to its executives.

It consists of five operational departments (management of personnel, finance and budgeting, production, logistics, and commercial matters) and nine regional delegations with offices at Abengourou, Abidjan, Bouake, Daloa, Korhogo, Man, Odienne, San Pedro, and Yamous-soukro.

Management at the National Telecommunications Office will take on, among other tasks, screening projects for submission to the management advisory commission which, after deliberation, will give (or withhold) the green light for their execution.

Reporting to the director, the operational inspection service is the ONT's essential oversight organ , although it can also call upon several other ancillary services for efficient expansion of its activities,

To wit: the management control and internal audit services; the foreign relations services; the national telecommunications coordinating committee.

Aware of the weaknesses in installation maintenance, the management has taken steps to decentralize equipment maintenance responsibility and to provide each technical branch with its own maintenance and repair section.

It is highly probable that ONT will continue to take an active part in the introduction of local and long-distance data transmission over telephone lines in Ivory Coast.

Mega-Project: 5-Year Plan to Rehabilitate the National System

The first job facing the Office management was the drafting of a 5-year plan for intervention. This plan, still in the drafting stages, must win approval from such financial institutions as the World Bank and the ADB.

The challenge is essentially to reorganize this titanic company, to make a comprehensive list of needs, and to make certain that in short order and at rock-bottom cost, the public telecommunications service will no longer be beset by maintenance problems or by shortcomings easily remedied.

The plan involves as well the technical areas of switching, of the urban system and transmission, not to mention the Office's in-house areas such as financial and personnel management and the whole range of marketing policy.

The system's growth was planned to allow for specific criteria. First of all, it had to make maximum utilization of the existing system so as to get a very accurate fix on reported shortcomings and distinguish between attractive possibilities and real needs, while allowing for predicted demand for service. The choice resolved into a decision to satisfy total demand for all services across the board: telex, data transmission, leased circuits, etc.

Switching

Insofar as concerns traffic-handling, the Abidjan region quite naturally requires much of the ONT executives' time, although that does not mean that they neglect the rest of the country.

New installations are planned for the nation's economic capital, including a Cti transit exchange. A mobile container and another Plateau III exchange which will come just in time to lift the overload from the electromechanical exchange at Plateau II and free up the Banko satellites, which are now respectively 80 and 76 percent saturated.

In the interior, there is no shortage of new projects or installations. In the Yamoussoukro zone, for instance, a new digital telephone system will replace the current automatic switching system which is now operating at 86 percent capacity. In the Daloa zone, a new exchange with two satellites will be installed.

Insofar as electromechanical exchanges are concerned, some improvements are called for at Plateau II.

As for telex, redesign of the Edx exchange and installation of a fast printer should lead to increased operational flexibility.

Urban Systems

The new installations or extensions planned for the urban systems come in response to the need for meeting anticipated demand on the basis of predictions and for cutting back to the greatest possible extent on maintenance problems.

Lastly, it is only prudent to make sure of balanced expansion of telecommunications facilities in Ivory Coast, while making equally sure of a fair return on investments.

This means that the urban system can expect new or improved installations in the prefectures and sub-prefectures where the automatic exchanges are installed.

Inland cities have received special attention, as may be seen from the following plans:

New lines will be strung to Adzope, Akoupe, and Agboville. At Bouaka the extension will involve two satellites so as to solve the problem of customers' line-lengths, as well as more operators.

Extension lines will also be provided to Boundiali, Issis, and Danane.

Finally, we announce the extension of lines to Guiglo, Man, and Odienne.

The economic development zones will be interconnected by the rural telephone system, in an operation involving more than 100 places which will be served by radio-electric systems. A loan of 3 billion CFA francs will probably have to be obtained for these local systems in the interior of the country.

Greater metropolitan Abidjan will need 9 billion from 1986 to 1990, with the funds going to set up several new exchanges requiring modifications or extensions of the local systems. Inter-exchange connections must also be provided.

Transmission

The order of the day at system headquarters is: If it's broken, fix it; if you've got it, use it; if you use it, take care of it.

A remarkably complete inventory list has been made by the transmission technical services, and urgent needs have been pinpointed.

First among these is beefing up the major arteries between Abidjan and the inland cities and towns, but also the major interurban links such as the Bouake-Korhogo and Man-Odienne lines.

On the agenda is digitalization (for switching and transmission) for the rural zones of Yamoussoukro, Bouake, Khorgo, Odienne, Daloam and Abengourou.

In line with the decentralization plan for the economy, a new office is planned to offer inland towns service of quality comparable with that available now in Abidjan.

As for satellite transmission, given the overload on the Abidjan-Dakar submarine cable, acquisition of additional links seems indispensable, as does increased capacity of that cable; there is talk of laying a second cable that could carry the Abidjan-Conakry-Dakar traffic.

During implementation of the current 5-year plan, studies will continue with an eye to a fiber-optics link over the Abidjan-Yamoussoukro-Bouake span.

We would point out that the fiber-optic technology is ideally suited to the conditions of tropical climates, which are often lethal to the equipment currently utilized.

Personnel and Data Management

The 1990 target in view at the new Office is to have an average of 60 agents for every 1,000 lines.

This idea assumes a major manpower-training program. Management is confident that it can marshall all the ways and means necessary to make it work.

That means funding, of course, but it also calls for the kind of discipline and responsibility so often lacking in such "tentacular bureaus."

The new director, M Aka Bonny Leon, plans to run the company with the same tight-ship and solidly-black-bottom-line policy that won such success as he achieved at the head of Intelci, provided, of course, that the government gives him the wherewithal.

Managing the entire existing system already calls for a computerized management system.

The installation of the planned extensions of service to the inland cities will very quickly force ONT to acquire a completely computerized management system, whose main-frame computer will be located in Abidjan with terminals in each region.

The Office's ambitions are on a par with those of Ivory Coast's citizens. It is time for straightening up, for rigor, and for discipline.

That sort of thing cannot come about without some grumbling. We have to break some very deep-rooted habits.

If we want better public service... and more fairness.

Extension and Reorganization

When the Intelci (Ivory Coast International Telecommunications Company) was dissolved in 1984, the National Telecommunications Office (ONT) stepped into the breach.

In September 1984, there were about 45,000 main lines (plus 1,300 telex subscribers), which works out to a density of 0.7 lines per 100 people. The Ivory Coast system is almost entirely automated, and a third of the available facilities offer real-time switching. An extensive network of Herz bands covers the country, but there are still radioelectric connections that are kept operative as fallbacks for the existing lines.

The Abidjan-Yamoussoukrou-Bouake artery is the backbone of Ivory Coast's telecommunications system. The rest of it is privately owned. Equipment consists in large part of 5-deck and CP 400 Crossbar and E 10 A electronic equipment.

International connections run through ground-stations and an Abidjan-Lagos section of the Penmarc'h-Casablanca-Dakar-Abidjan-Lagos came on line in 1981. In addition, the new underseas cable linking Brazil to Senegal and Senegal to Europe will allow Ivory Coast to operate about 800 circuits to Europe. Besides that, Ivory Coast has signed onto the regional satellite program, approved at the last two sessions of the member-countries' ministers.

As in most Sub-Saharan African countries, the vast majority of telephone customers are in the big cities, including the capital.

Hence the concern in Ivory Coast government quarters with assigning priority in future to rural telephone service, which, it is hoped, will penetrate and shatter the isolation of the country population. Ivory Coast's economic and financial status, however, has forced relegation of these plans to the back burner.

6182

CSO: 5500/131

SOUTH AFRICA

SIX REGIONAL RADIO STATIONS PLANNED

Johannesburg THE SUNDAY STAR in English 14 Apr 85 p 3

[Article by Ian Gray]

[Text]

THE COUNTDOWN for the SABC's radio regionalisation programme has begun and the three new "local" stations will go on the air on July 1 for a six month shake-down period. At the same time, Springbok Radio will go off the air at 6.30 pm each day.

During the trial period, two of the three existing regional stations — Radio Highveld and Good Hope — will broadcast from five different venues. Highveld from Johannesburg, Pretoria and Bloemfontein, and Good Hope from Cape Town and Port Elizabeth.

Radio Port Natal is not affected in any way by the new regionalisation programme and will continue to cover the same area as at present.

From January 1, the new stations will become fully operative with Highveld splitting into three: the existing Highveld will broadcast from Johannesburg, Radio Jacaranda from Pretoria and Radio Oranje from Bloemfontein. Good Hope will broadcast from

Cape Town and Radio Algoa from Port Elizabeth.

The six regional stations will be on the air from 6 am until midnight seven days a week from January 1.

They will supplement the national networks — the English and Afrikaans services, Radio 5 and Springbok (from 5 am till 6.30 pm daily).

The areas that the new regional stations will cover are indicated on the adjoining map. However, the extent of the transmissions are projections at this stage as existing transmitters are still being adjusted.

In general terms, Radio Highveld will be beamed to the Johannesburg area in the north, as far as Parys in the south, Potchefstroom/Klerksdorp in the west and Springs/Delmas in the east.

Radio Jacaranda will be beamed to Messina in the north, Sannieshof in the south-west, Volksrust in the south-east and Nelspruit in the west.

Radio Oranje, from Bloemfontein, will cover a vast area stretching to as far as Potchefstroom/Vanderbijlpark in the north, De Aar in the south,

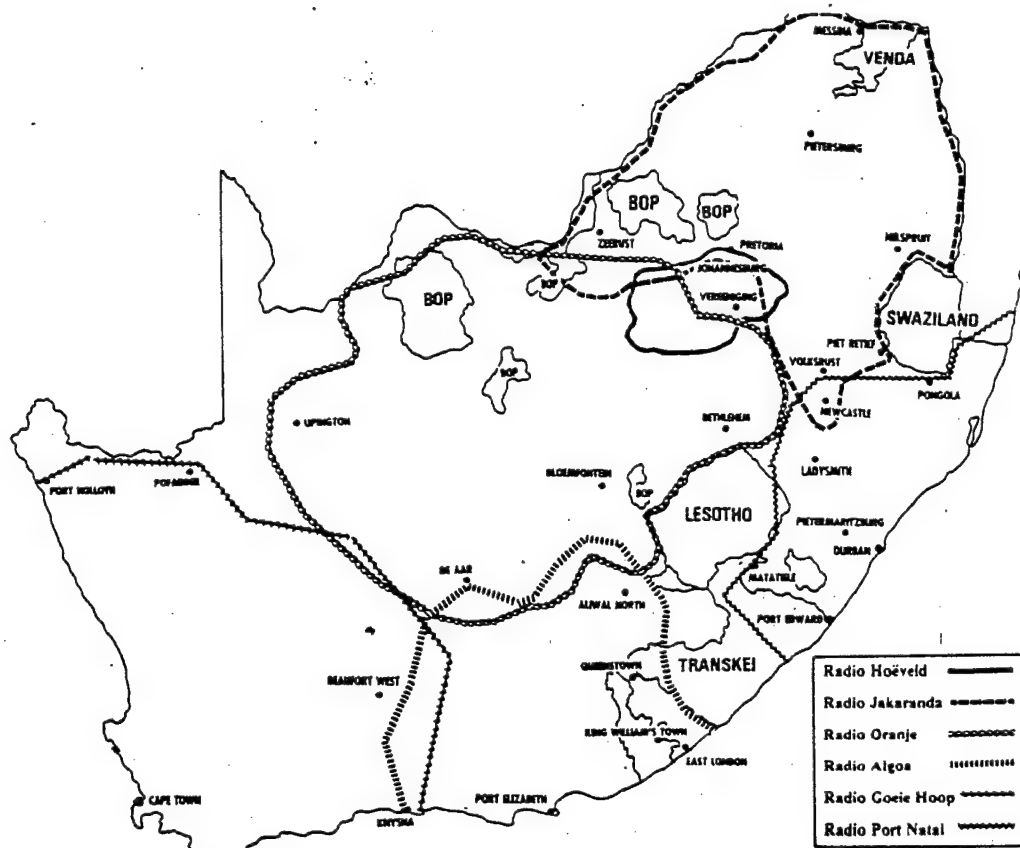
Upington in the west and Bethlehem/Harrismith in the east.

Radio Good Hope from Cape Town will reach Port Nolloth in the north, Beaufort West in the east and George/Mossel Bay/Knysna in the south-east.

Radio Algoa, from Port Elizabeth, will reach Aliwal North in the north, Murraysburg/Graaff-Reinet/Aberdeen in the west and East London/Queenstown/Stutterheim in the south-east.

Several new appointments have been made in the commercial services.

Pietie Lotriet, former head of Springbok Radio, becomes head of Radio Highveld and Radio 5; Leslie McKenzie becomes head of Springbok; Tony Elliott becomes head, commercial services Eastern Cape (Radio Algoa); Christo Olivier becomes head, commercial services Free State (Radio Oranje); Derek Wulse becomes head, commercial services Northern Transvaal (Radio Jacaranda) and Bruce Coldwells becomes head of marketing, commercial services.



TRANSMISSION AREAS: Extent of the transmissions of new regional stations are projections at this stage as existing transmitters are still being adjusted.

CSO: 5500/135

AUSTRIA

PTT PLANS INVESTMENTS IN DIGITAL, GLASS FIBER NETWORK

Vienna DIE PRESSE in German 27 Feb 85 p 10

[Article by Josef Urschitz]

[Text] The Postal Service's enthusiasm to innovate means a strong surge in orders for the domestic telephone manufacturers: While the 60-billion-schilling conversion to a digital telephone system is just beginning, there are already plans for a field test of the ISDN [integrated services digital network] mixed communications system. In the early 1990s, this new kind of data transmission system--called video telephone--will make it possible for domestic firms to get into the glass fiber technology on a commercial basis. To take care of the development work, the large telephone manufacturers have formed a number of cooperative ventures which already are showing their first results in export markets. The painful part about it: a relatively large part of Austria's telephone technology is based on licenses.

The ambition of the Austrian Postal Service to become a European leader in telephone network matters has led to a series of "alliances of expedience": Competing enterprises have combined their development activities in some areas in order to be able to meet more effectively and more rapidly the, in part, very high technological demands of the Postal Service.

For instance, Siemens and ITT as well as Schrack and Kapsch each have formed a joint development center for digital switching systems. On the other hand, for automobile telephones, Siemens and Kapsch have set up joint production facilities at Fuerstenfeld, while Schrack and the Burgenland electrical company Bewag are manufacturing at Lockenhaus-Hochstrass. In the evolving cordless telephone business, Center is trying to establish a joint venture with Schrack to compensate at least in export markets for its start in the domestic market that was marred by delivery difficulties.

For the businesses, a relatively large volume of orders is at stake here: over the past year, the Postal Service invested 7.8 billion schillings in telephone network improvements; of that total, 3.5 billion schillings were spent in the switching technology area--that is, on telephone sets, exchanges and similar equipment. This year, investments will jump to 9.2 billion

schillings, of which 4 billion schillings are for switching technologies. Of that amount, 350 million schillings will be expended on converting the network to digital technology. This conversion will take 25 years and, in today's prices, cost at least 60 billion schillings.

This pie of orders is being shared by the "big four," Schrack/Kapsch and Siemens/ITT. Both systems have undergone further development in Austria at great costs, but the basic knowhow comes from Canada's Northern Telecom (Schrack/Kapsch) and Siemens-Germany (ITT/Siemens). This dependence on licenses might have a negative impact on exports: Kapsch and Schrack--in addition to ITT's German subsidiary SEL--hope, with justification, to land the order, worth billions of schillings, to "digitize" the Hungarian telephone network. However, both the Northern Telecom and the ITT systems--because of their North American origin--are subject to COCOM [Coordinating Committee for Export Controls] regulations, and their exports to an East block country could be prohibited by the U.S. Government.

One should not underestimate the "ordinary" telephone orders such as those for the supply of convenience telephones (230 million schillings today) and of telephone booths (80 million schillings today), which by and large are met by Siemens, Kapsch and Schrack.

In the meantime, the first positive results in exporting have been achieved with regard to digital private branch exchanges. For instance, ITT-Austria recently announced the conclusion of several export and licensing agreements involving its ITT 5200 BCS office communications system, entirely developed in Austria. It is expected to earn already today some 150 million schillings in exports. A similar system built under a license with Ericsson is offered by Schrack.

"Video Telephone" Already in This Decade

While the telephone companies have just begun to convert to digital switching technology, the next step on the way to the telephone of the future is already discernible: Before the end of this decade, the Postal Service will begin a field experiment to test the so-called ISDN system. This will make the telephone part of a universal communications network: spoken words, text, pictures and data will be transmitted simultaneously. During the second phase, the so-called broad-band ISDN, it will be possible to transmit moving pictures by telephone: the video telephone will then be a reality.

Nonetheless, the ISDN can only be set up with the help of glass fiber technology in the transmission networks. The companies are already showing great interest in the potential volume of orders--basically, the telephone network would have to get new cabling. For example, plans for a glass-fiber manufacturing plant in Burgenland are already in existence.

It is true that ISDN will also be a question of financing, not only for the Postal Service, but also for the users. There are already indications that, for financial reasons, the Austrians are not very enthralled with making the new communications technology innovations: for instance, starting April

first, the Postal Service must, for two years, lower its basic monthly fee for teletex connections from 1,300 to 300 schillings in view of the fact that utilization of this type of communication has been very sluggish.

"In technological terms," the Postal Service notes, "we in Austria are up-to-date. However, our customers have not yet started the rethinking process."

7821

CSO: 5500/2616

BELGIUM

COMMERCIAL RADIO, TELEVISION STATIONS TO BE LICENSED

Zuerich NEUE ZUERCHER ZEITUNG in German 7 Mar 85 p 11

[Text] For a long time, the situation of the electronic media in Belgium has baffled both those in responsible positions and bystanders who have a large or minor interest in commercial or political questions: How can the state's radio system monopoly be defended in the long run--or should it be discontinued? How can the diverse stations get rid of the large number of programs which are coming across the borders or infiltrating Belgium's living rooms via cable? And: How should one get a handle on the problem of private stations that are shooting up like mushrooms?

Fertile Soil for Private Stations

The most fertile soil for private radio operators is always the lack of advertising on public radio stations, be it as a result of voluntary action or legally imposed requirements. Here, the interests of business coincide with the calculations of clever media pioneers. Their loud protests against infringing on the right of citizens to form their own opinion by depriving them of the offers of the consumer society, sounds even more convincing if--like in Belgium--foreign stations around the country are slicing off a piece of the advertising pie for themselves: for instance, Radio Luxembourg, or even German "state broadcasting stations," which are permitted to supplement their budgets with advertising.

A second factor that makes for the establishment of illegal stations is domestic political restlessness, disagreement or even open conflict among the factions, repression of minorities and their views. There is the perennial turmoil between the Flemish and the Walloons, and Brussels is jealously guarding its own identity; real and alleged discrimination is inflaming passions--particularly in defense of extreme views. It is somewhat surprising that the voice of the political radicals is hardly represented in Belgium's Radio-Underground. Rather, ethnic minorities--such as Indians or Indonesians--support their fellow-countrymen, stranded in Belgium, with clamor from home.

Pirate Scene with Dynamics of its Own

The third incentive for setting up private stations is the imitative instinct of the young enthusiasts, in particular. Neighboring Holland has thousands

of illegal mini-stations, in most cases one-man operations, that produce home-style broadcasts after work and on weekends. With the help of inexpensive, self-built transmitters, they are operating on the air under the most bizarre names. Their programs consist of long-playing records from their private collection or recordings of official VHF [ultra high frequency] programs.

Ambitions are high and by no means limited to ultra high frequencies. They hope to reach a larger audience on medium wave, or even switch to short wave in order to be heard internationally. Thus, the fans of "Free Europe" play a large role in these stations, provide verbal propaganda and long ago established a secondary market that lives off the sale of stickers, posters, magazines and richly illustrated station portraits. The notoriety of what is illegal but just, the brave protest against the telecommunications authorities, the declaration of war against the musical monotony of the established competition provides the pirates' scene with a sparkle and dynamic of its own.

Those who miss the opportunity to get on top of such a development at the very beginning--and that happened in Belgium and in most of the other affected countries--, will soon face a situation which can no longer be controlled. Public opinion as a promoter of private interests profits the business lobby: The pressure on politicians is growing: the camps are getting better defined--and there, the media fight is on the daily agenda.

In Brussels, they waited until 1981, limiting themselves to enlisting once in a while the help of Post Office direction-finder vans. First, they had to get a handle on the definitive division, which did not occur until 1970, of the state radio stations--into the Flemish radio and television system BRT, the Walloon radio and television system RTBF and the BRF for the German minority. It was only then that they could tackle the regionalization of the public stations--a delicate and laborious matter considering the permanent lack of money and the complicated distribution formula. The private stations, which came up as something of a byproduct of this development, were ignored at first, but later half-heartedly made into issues at the margin of the election campaign and finally promised a definitive solution in the foreseeable future, without getting any serious commitment.

The Government's Television Plans

The situation did not become acute until 1981 when the current government came to power and stated that the BRT/RTBF monopoly had to be dismantled, that, in fact, it had already been watered down by the establishment of regional radio stations and that it also would have to make way to a new system in television. Since, at the beginning, this did not sit too well with the Walloons, the focus was first on the Flemish region of the country. BRT2, the second TV channel, which leads a miserable existence in the shadow of its big brother, is to be upgraded to program of equal rank. In cooperation with the printed media and the national news agency, BRT2 will even

have an information and current events department. And what is the price for these measures which would entail a considerable increase in technical and financial capital? It would mean the creation of a third TV program, which despite its country-wide dissemination via cable, would be regional in character (with each of the five provinces having one or two stations) and the only fully commercial program to live off its advertising revenues. Moreover, surplus revenues, now expected on paper, are intended for investments in the expansion of BRT2 and BRT1 in line with established goals.

The Walloons are paying for their apparent reluctance in that they are being fobbed off with a modest concession: their only TV channel will be permitted to transmit advertising spots in the future. BRT and RTBF have already agreed to the government plan to put both sectors, i.e., the public and the private-commercial one, on an equal footing. They have had bad experiences in that respect: not too long ago, the board, the directors and the staff of BRT took to the streets in Brussels in rare unity in order to demonstrate against announced drastic cutbacks in the channel's budget.

Licenses for Private Radio Stations

The question of private radio stations remains--so far, the Belgians have been spared pirate television stations, except for a few short-lived instances. Many interested parties have already plans for such radio stations in their drawers and they are waiting for the right moment to present them to the public and the politicians. Private promoters benefit from the fact that the current minister of justice and deputy prime minister would like to see the early abolition of the state's radio monopoly. Hence, he has ordered a halt to all investigations of private stations and to their closing--of course, the medium wave and short wave are sometimes exempted--, in order to avoid prejudging a definitive solution that is expected "soon".

The hopes of all participating parties were on Geneva where another World Administrative Radio Conference (WARC) was held. This one was supposed to redistribute the ultra-high frequencies (UKW), and there was reason to believe that the wavelength between 104 and 108 megacycles per second would be set aside for regional and local small and mini stations. Every country would then be permitted to assign to its state or private "minis" an area where they could play.

In anticipation of this regulation, the Belgian authorities in Flanders already have issued temporary licenses to hundreds of private stations and thus legalized their activities on very high frequencies--yet without being able to assign to them a definitive radio frequency. This sanctions the status quo that has been established by tradition and the law of the jungle. The stations will have to be operated in such a way that their receive radius must not exceed eight kilometers: whether they may be financed with advertising revenues and, if so, to what extent, that is still an open question at this point--a rhetorical question, if you will, because the programs today on the Belgian private stations are already full of spot advertising. This, they readily admit, is completely illegal, but even multinational sponsors are using it: evidently, there is a lot of confidence in the normative power of the de facto situation.

DENMARK

BRIEFS

PARLIAMENT APPROVES HYBRID NET--The agreement between the government and the Social Democrats on establishing a hybrid network has been approved in the form of an amendment to a proposed Folketing resolution. This will guarantee a nationwide hybrid network--an advanced radio-TV-data network--within 6 years. The hybrid network will cost around 5 billion kroner which will be provided through consumer fees that will be collected by the telephone companies. Telecommunications firms will make sure that the hybrid network reaches at least one location in each of the nation's towns to which joint antenna facilities can be hooked up for a fee. [By Solveig Rodsgaard] [Text] [Copenhagen BERLINGSKE TIDENDE in Danish 5 Mar 85 p 11] 6578

CSO: 5500/2630

FEDERAL REPUBLIC OF GERMANY

SIEMENS ANNOUNCES FIRST VOICE, DATA, VIDEO TRANSMISSION SYSTEM

Paris AFP SCIENCES in French 13 Dec 84 p 45

/Text/ The Siemens West German group on 12 December in Munich introduced the first universal telecommunications system in the world (HICOM) which allows for transmitting, under a single number and over a single telephone line, simultaneous conversations, texts, pictures and computer data, the firm announced in a communique.

Businesses, for which the new system is designed, may thus, with just one component, simultaneously telephone and consult computers, call data banks and telecopy texts. Furthermore, a text sent by telex is automatically converted into telefax if the correspondent has only a simple telecopier.

The firm specifies that the new system may be hooked up on currently existing telephone lines.

Siemens foresees that in the next 12 months the new system will be set up in the FRG for 100 to 600 subscribers at a cost of 1,500 marks per customer. Development costs have risen to 500 million marks (\$160 million approximately) according to the firm.

The world market in the area of telephonic and telegraphic communications in 1983 reached an overall figure of 30 billion marks (\$10 billion), with Siemens activities accounting for 11 percent.

9436
CSO: 5500/2580

FEDERAL REPUBLIC OF GERMANY

BRIEFS

FRG SATELLITE DATA FIRM--On November 30, Siemens, West Germany's largest electrotechnics group, announced that four large West German industrial groups have formed a firm which is the first in the world to furnish a complete telecommunications system with a satellite. Besides Siemens, this firm, called GESAT, brings together the aeronautical and aerospace builder Messerschmitt-Boelkow-Blohm (MBB) and the Standard Elektrik Lorenz (SEL, West German affiliate of the American ITT) and Ant Nachrichtentechnik groups. GESAT will be in charge of marketing the German DFS-Kopernikus telecommunications-by-satellite system throughout the world. Each founding company holds 25 percent of the GESAT capital, which amounts to 100,000 DM (about 30,000 dollars.) [Text] [Paris AFP SCIENCES in French-6 Dec 84 p 27] 9895

CSO: 5500/2602

FRANCE

PTT, DGT REVEAL CONTRASTING FINANCIAL SITUATIONS

Paris LE NOUVEL ECONOMISTE in French 8 Feb 85 p 27

[Text] Orchestrator of the cable plan, the plastic money program and the electronic network, forced to pour their earnings into the general budget of the state, to which they have long furnished money at preferred rates: the PTT seems more and more like a milk cow at the beck and call of the public powers. Their 15 billion francs of forced expenses or loss of earnings would allow them to finance half of their enormous investments!

Bastard

At the root of this confusion: a bastard administrative/business status. Depending on the era, a fully-functioning ministry, a secretariat of state or, as now, a ministry attached to the Ministry of Industrial Redeployment and Foreign Trade, an "annex budget" is strongly indicated for the PTT. In other words, their projected 1985 accounts--162 billion francs in expenses and receipts--were voted on in 1985 by the Parliament. But like the more modest ones of the Legion of Honor or the Order of Liberation, they are supposed to be established on the model of a classic enterprise: the accounts should be in balance, possibly thanks to state subsidies to compensate for the constraints related to the operations appropriate to a public service.

The current economic constraints, however, have seriously shaken this compromise. The post office, first of all, the public service par excellence with its 320,000 agents and 17,000 offices, continues to swim in red ink. It registered a deficit of 3 billion francs in 1984. The only subsidy--1.5 billion francs--which is granted to it, is supposed to compensate for the loss of earnings due to the sending of printed material. The post office estimates that that is not sufficient, but, is it really possible to make any sense out of the maze of special rates? If the treatment of the mail is not profitable, the financial service (National Savings Bank and CCP) is also seriously threatened. Stalled since the big banks have had a large-scale national network, the CCP's have never really had the means to resist competition. The low remuneration on CCP deposits (5.5 percent) has always been a subject of friction between the Treasury and successive PTT ministers. Mr Louis Mexandeau, the last one in charge, was just recently asking for a one-point increase in the rate. The outcome of the negotiation took away all his illusions: the 1985 budget foresees the cancellation of all interest payments by the Treasury.

And a measure of the same type has just been decided on which would be retro-active to the last five months of 1984: A total dead loss which would reach at least 7 billion francs.

But without a doubt, it is now the Telecom General Management (DGT) with its 165,000 employees which one finds at the heart of the debate. A gigantic machine to pull the French electronics industry, it is, after ten years of massive investments, in control of a first-rate telephone network. Its apparent financial health (6.4 billion francs profit in 1984), has made it the privileged target of the "money seekers." When supervision of a good part of the electronics subsidiary was entrusted to the PTT, it was certainly the electronics subsidiary that was targeted. Result: 7 billion francs will leave its moneybag this year to support the sector's businesses and subsidize the CNES (National Space Studies Center). To top everything, the DGT will also have to transfer 3.5 billion to the post office which is in jeopardy.

Is it possible to resist such withdrawals for very long when one must manage a debt of 118 billion francs (of which half is drawn up in currency) which translates into financial costs of nearly 12 billion? And it is not with the higher telephone tax, which was imposed last summer and has slowed the usual growth of traffic, that the DGT balance sheet will find a definitive balance.

Identity

These mediocre financial prospects are accompanied by an equally delicate change in identity. The telephone, of course, but Mr Jacques Dondoux, the DGT boss, does not intend to stop there. The DGT is and will be involved in all communications media to be developed. So they are leaving the domain of public service strictly speaking to enter markets in gestation; segmented, subject to the rules of competition, whence comes the mixture of types for which the DGT has been criticized, and from now on it will no longer be able to avoid a clarification of its own structures, notably concerning the relations it maintains with its commercial and industrial affiliates.

Now, a change in status or a break-up of the PTT, making Telecoms private as in Japan and Great Britain, or simply releasing it from the supervising authority? Whatever solution is adopted, some new game rules will have to be established.

9895

CSO: 5500/2602

FRANCE

BRIEFS

NEW REMOTE SENSING LAB--The CNES [National Center for Space Studies] and the CNRS [National Center for Scientific Research] have just created a joint research laboratory, Lerts, on remote sensing in space at the Toulouse Space Center. This laboratory will both increase knowledge concerning radiation-matter interaction and will study the interpretation of data furnished by satellites, particularly Spot, beginning next October.

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[Text] [Paris LE NOUVEL ECONOMISTE in French 15 Feb 85 p 28] 9895

CSO: 5500/2602

NETHERLANDS

BRIEFS

DIGITAL PHONE SYSTEM FROM ERICSSON--L. M. Ericsson of Sweden and a joint venture between American Telephone and Telegraph and Philips of the Netherlands will be the main suppliers of a digital telephone exchange system that will modernize the Dutch telephone system. The orders will meet the needs of the Dutch telephone system for the next 5 years and are part of a 20-year modernization program that will cost \$1.85 billion in all. Ericsson now has a 25 percent share of the Dutch market. [Text] [Copenhagen BERLINGSKE TIDENDE in Danish 17 Apr 85 Sec III p 9] 6578

CSO: 5500/2630

NORWAY

PARLIAMENTARY TELECOMMUNICATIONS SEES LESS MONOPOLY

Government Policy Backed

Oslo AFTENPOSTEN in Norwegian 18 Apr 85 p 3

[Article by Einar Solvoll: "Telecommunications Administration Must Prepare for More Competition"]

[Text] The exclusive rights and monopoly position of the Telecommunications Administration [TA] will be replaced by more competition with private firms. But that does not mean that the position of the TA will be weakened thereby. If it is able to compete it will also be able to meet new tasks and challenges. That is the conclusion of the recommendation yesterday from the Storting Communications Committee on the future of the TA, but it also warned of political conflict over the monopoly position of the TA.

The nonsocialist parties support the intent of the government for more competition for the TA, while the Labor Party and SV [Socialist-Left Party] want to allow the TA to retain its monopoly position. Among other things it involves cable TV, which the socialist parties believe should be part of the TA. The two parties believe that in the future the TA should take over and expropriate the entire cable TV industry, while the nonsocialist parties want cable TV to be a market for private enterprise, and operated on a profit basis.

The nonsocialist parties want to cancel the TA's monopoly over user equipment, internal networks and telephone apparatus. The Labor Party and SV believe that the TA should have a monopoly all the way to the connection point for all the apparatus in a firm, including the first telephone apparatus of a household subscriber. The two parties believe that there should only be competition on the internal user equipment, for example computer data screens, etc.

The nonsocialist majority in the committee wants a precise amplification of what the department itself recommends. It is assumed that there will be no

price differences to the disadvantage of anyone in relation to today's prices, for installation as well as for service, in the offering of telecommunications equipment. It is also assumed that the future basic organization of the TA will quote fixed and equal prices for work in connection with internal household networks over the entire country.

Pirate Telephones

During the Storting question period yesterday a question came up concerning pirate telephones, which are both sold and used here in this country. Tore A. Liltved (Conservative) said that such telephones, which are not approved, are sold legally in Norway, even though it is not permitted to connect them to the network. That is done, however, causing interference on the lines, expensive searching for faults and incorrect directing of calls.

Minister of Communications Johan J. Jakobsen said that the Storting will discuss the future of the TA shortly. After that changes in the telegraph law will be considered with a view to prohibiting the import and sale of apparatus which are not permitted to be used on the network. Minister Jakobsen also said that the Communications Ministry will take the initiative to introduce a simpler and more comprehensive marking of approved apparatus so that these will be easier for the public to recognize.

There is no authority today under the telegraph law to prevent the import and sale of pirate telephones. Telephone subscribers, however, only have access to telephones which are delivered by the TA, or which the TA has approved. In case of violations the TA can stop service for a period, or cancel the subscription, Minister of Communications Johan J. Jakobsen pointed out.

Unions Oppose Plans

Oslo AFTENPOSTEN in Norwegian 22 Apr 85 p 7

[Article: "Per Aas (Christian People's Party) on Criticism of Telecommunications Report--Competition Will Not Weaken Telecommunications Service"]

[Text] The Storting report on TA's reorganization and operating areas has caused considerable debate among interested parties. "Once more we are seeing an example of nonsocialist ideology about privatization being given greater weight than social use of change," claimed The Norwegian Telecommunications Services Union and The Norwegian Telecommunications Organization in a statement. It is the competition part of the report which the two unions oppose. "Gloomy predictions which will be put to shame," said MP Per Aas.

The telecommunications unions have previously strongly opposed recommendations for free competition in the installation of internal household net-

works. They believe this will lead to more expensive telephone service, poorer service and unclear responsibilities.

MP Per Aas said for his part that the Storting Communications Committee complied with all desires which were expressed.

"In the report there are plans for expanded competition between TA and private installers and suppliers. In that connection the Labor Party press has in part predicted worse times for telephone users, because the principle of competition can eliminate unit prices, and efficient and reasonable service. Norwegian apparatus producers have asked for protection against competition from foreign producers," said Aas, and he continued, "There is unified agreement that internal company installations should be competitive. Discussions about internal household nets has led to divided opinions between the government side and the Labor/SV side, and the latter side maintains that the TA monopoly should go to the connection on the wall for the first telephone apparatus."

The government side has asked the ministry to look further into this question. It is assumed, however, that there will be no price differences to anyone's disadvantage in relation to today's prices for installations and service. It is also assumed that TA will in the future offer services based on fixed and equal prices for work in connection with household internal nets throughout the entire country.

Competition

As for competition with foreign suppliers of telecommunications equipment to the Norwegian market, the combined committee asked the ministry to work toward this competition taking place under equal and reciprocal terms, so that Norwegian firms will have corresponding possibilities to compete in the countries concerned.

"That is in accordance with the wishes of the Norwegian producers," said Per Aas. He believes that there is reason to expect that the gloomy predictions which have been made in these areas will not be fulfilled.

"The assumptions which have been made should ensure equal conditions for all when it comes to installation and telephone service. They also form a very good basis for the place of the TA in this picture," he emphasized.

9287

CSO: 5500/2633

SPAIN

'TELEFONICA' TO OBTAIN INTERNATIONAL FINANCING, KNOW-HOW

Madrid MERCADO in Spanish 8 Mar 85 pp 26-29

[Article by Casimiro Garcia Abadillo: "The Strategy of the Giant"]

[Text] If there is anyone who is still unclear about what power the National Telephone Company of Spain (CTNE) has, here are some figures which may dispel a number of doubts. The sales of the CTNE and its industrial group (not counting the SECOINSA [Spanish Company of Communications and Data Processing, Inc.] or Standard) exceeded 450 billion pesetas in 1984. The personnel roster of the CTNE and its group of enterprises includes 74,000 workers. Profits exceeded 35 billion pesetas last year, and as if this were not enough, the CTNE has the capacity to invest 925 billion pesetas in 4 years.

The socialist government was quite clear from the beginning about the tremendous power control of this company involved. On this basis the whole telecommunications and electronics sector could be dominated, and it would be possible to seize a large part of the data-processing pie where the multinational companies are concerned. The tool for achieving this ambitious goal took shape in the 4-year plans of the company. Through them, the CTNE cleared the horizon of enterprises depending on its requirements, while at the same time establishing the foundation for what could be, and is, power: he who purchases commands.

In order to put this great monster in operation, a great deal of money is needed, particularly when the CTNE debts even now come to 860 billion pesetas. How will the CTNE find enough money to implement an investment program totaling almost a billion pesetas, without extending its indebtedness alarmingly? "The financial strategy of the CTNE," German Ramajo, the company's director of finance, responds, "is to achieve 100 percent self-financing. The deadline we have set ourselves for achieving this, and it depends to a great extent on the tariff policy, is the year 1990."

The great financial battle of the CTNE currently is to reduce its foreign exchange debt, which totals 240 billion pesetas.

"Our goal," German Ramajo notes, "is to avoid recourse to the foreign market except in extreme cases, the very long or the very short-term. And, on the other hand, to reduce the debt in foreign exchange. In fact, we will amortize 62 billion pesetas in foreign exchange this year, and the 32 billion pesetas involved in our 23 February expansion will go entirely to repay foreign debts."

The 925 billion for the investment plan will come 70 percent from self-financing, 15 percent from indebtedness (domestic, for the most part) and another 15 percent from capital expansion. The CTNE plans three further expansions: one in 1986, with an effective outlay of 36 billion, another in 1987, involving 32.4 billion, and another in 1985 with 35.7 billion.

With this financial framework, the CTNE would achieve an average annual rate of growth in financial expenditures of 8.7 percent and a ratio of 20 percent between financial expenditures and income over the 4 years of the plan, because of inadequate current self-financing. Once again, the CTNE has succeeded in dazzling the investor. The stock market is an index of what is happening. The strategy for achieving this began with the issuance of the company's promissory notes, which are not only negotiated on the stock market, but also through 16 banking institutions, which, in German Ramajo's view "has changed the market model." In the first year, 42 billion pesetas were negotiated. Now there is less interest in these financial activities for fiscal reasons, and revitalization of this interest will depend on the financial assets law. Last year the CTNE returned to the charge with the telephone bonds, placing 11.705 billion pesetas' worth, and in December, it brought out the convertible bonds in the amount of 20 billion, later increased to 25 billion, as an asset in between the bonds and the stocks (the strategy is to win new shareholders to take over the terrain from the holders of "matildes"). Even so, only 23 percent of the applications could be filled. This is yet another proof that the investors want the certainty of some assets supported by the state, however, much it may be said that the majority of the CTNE capital is private.

The conditions have been established. But it was not only the domestic investors who were drawn to the bait. The European pension funds pounced on the CTNE shares. Between 8 and 10 percent of them are now in foreign hands. And, in addition, the CTNE strategy has been to put the company into the ring on the most important stock markets. Agreements were reached with Morgan Grenfell and the broker Cazenove in England with a view to telephone share transactions on the London stock market, with Parabas, for the Paris stock market, Nikko Securities for the Tokyo stock market, and with the Dresdner Bank for the Frankfurt stock market. In all, 47 million shares will be sold on these markets. At the end of this year, 17 percent of the CTNE capital will be in foreign hands. Since there is a 25 percent limit, the company has even studied the possibility of raising the limit to 49 percent in order to avoid double quotation. But for the time being, this has not been done.

Perhaps the most serious financial problem faced by the CTNE involves the deficit in its pension fund, totaling 40 billion pesetas. "For the time being," German Ramajo says, "there are no treasury problems, but if the situation is not remedied, there could be within a period of 5 years." According to an auditing firm employed by the CTNE, the funds committed are 67 billion, while the reserves total only 27 billion.

It was 1 p.m. on 26 February, and Victor Goyenechea, deputy director general of the CTNE branches, had just been back from Japan for less than an hour. He is the man who negotiates with Fujitsu and ATT. He is one of the leading assets in the "industrial strategy" of the company. "The negotiations with

Fujitsu are going very well. We have established a working group including representatives of Fujitsu, SECOINSA, Fujitsu Espana and the CTNE, and within a period of 3 months, the agreement will be signed. Fujitsu itself is selling in Japan, and from now on, it will have a major enterprise in Spain which will give it access to Europe. The points to be discussed during the negotiations are basically the technological contribution Fujitsu will make (because to date, the Japanese have only contributed equipment, not technology), research and development and exports. But a statement of intention has already been signed outlining the main parameters for the new enterprise: company capital of 5 billion, expandable to 10 billion, of which the CTNE will have 40 percent and Fujitsu 60 percent. The investment will total \$300 million and the company will employ 3,000 workers. Sales in 1988 will be 100 billion, with half being exported to Europe. The new company will quite certainly be called Fujitsu Espana. Not only will it concentrate on small computers, but it will make large equipment as well. IBM has begun to scream, not only because of the CTNE monopoly on terminals, but because it will now have a competitor on its own ground, and therefore in the eyes of the public.

The strategy of the CTNE in the industrial sector, in which Pedro Higuera, since resigned, played an outstanding role, has been directed toward acquiring state-of-the-art technology in all fields. For example it reached an agreement with Corning Glass, the leading world enterprise in optic fibers, to create Fiber Optics of Spain, S.A., involving an investment of 35 billion pesetas.

The circle is closed with a group of small enterprises which began operation this year and which were created thanks to the capacity of the CTNE to generate business (Telephones and Data, Digitalized Cartography, Atlantida Ship Operations, etc.).

At the last meeting of the executive board of the CTNE, the establishment of a new enterprise, Telephone Systems, S.A., was approved. This is a systems engineering enterprise which will enable the CTNE group to undertake turnkey projects. It will have an initial labor force of 30 individuals and will be a kind of a brain trust for the group of enterprises, designing projects in which all of the CTNE enterprises will participate. One of the divisions of this enterprise will devote itself exclusively to the communications sector. Currently, Project Radite (a system of data, strategic and tactical networks for the army) is in the specifications stage with the Ministry of Defense. Through this branch, the CTNE group of enterprises will be offered numerous opportunities.

Defense and security are two fields to date little cultivated by the CTNE, but offering prospects for tremendous growth. In security, the CTNE reached an agreement last year with the German Hormann company on the establishment of Integrated Electronic Controls (THM), an enterprise which will engage in security systems design.

The CTNE today is more than ever a tool in the hands of the state for industrial development. A kind of profitable INI [National Institute of Industry]. And one, in addition, with international scope. The CTNE group will operate

as a multinational company, and its first ventures will be carried out in the United States and Canada (where there is a potential for the creation of enterprises in the data network field) and Latin America, where work is being done in connection with Project IBI (a single data network for the entire continent).

And yet, the intention of the CTNE is for the industrial group to remain, in the medium time range, mainly private. The first enterprises to emerge on the stock market will be Amper and Sintel, in 1986. Which will not mean a loss of real control of the enterprises.

5157

CSO: 5500/2627

SWITZERLAND

NEW PART OF TELEPAC NETWORK OPENED

Paris ZERO UN INFORMATIQUE HEBDO in French 17 Dec 84 p 45

/Text/ French-speaking Swiss subscribers to the PTT data packet transmission network are connected to the Lausanne exchange except, of course, subscribers in the Geneva area.

This new Telepac node was inaugurated last week and on that occasion was baptized Challenger.

Thirty-eight subscribers were successfully placed in service as mid-November and as of next January the approximately 80 subscribers in the switched network who will be hooked up to the Lausanne node. The exchange can handle between 230 and 500 subscribers.

Hardware

From the hardware standpoint, the exchange is based on a Northern Telecom system consisting of a central processor, a line and card processor for each subscriber. Software was developed by the Swiss company Zelleger. Let us recall that a switched network as things now stand allows only low transmission speeds, from 1,200 to 4,800 bits/s, and rates are normally set by distance and use time. Telepac, on the other hand, offers several kinds of hookups. For example, it allows for hookup between clearly defined correspondents and offers a choice of access speeds anywhere from 300 to 48,000 bits/s.

As for rates, they are primarily based on the amount of data transmitted. Telepac also has a special feature of adapting transmission speeds and protocols between different customers; all they have to do is concern themselves with the partner terminal's characteristics.

Decentralization

The PTT is decentralizing this service also with a view to marketing it. The man in charge of the center, Mr Kunzi, and his assistant, Mr Henchoz, are responsible for providing technical counseling to customers in the Lausanne, Neuchatel, Fribourg and Sion areas.

In terms of maintenance, the center is under the care during working hours of two technicians while the Telepac operations center in Berne (the NBZ) offers assistance 24 hours a day.

Lastly, we report that a second Telepac exchange will be incorporated about 2 years from now into the new Lausanne telecommunications center, now under construction. There the PTT will replace the analog mechanical telephone exchange with an IFS (digital) system.

9436

CSO: 5500/2580

20 May 1985

UNITED KINGDOM

BRIEFS

MOBILE PHONES FROM DENMARK--In stiff competition with the world's leading producers of radio communications equipment, Storno has landed one of the biggest single orders to date for car telephones in England. Through an English subsidiary Storno obtained an order worth 40 million kroner. This brings the value of Storno's sales of mobile telephones in England to 60 million kroner within a period of a few months. [Text] [Copenhagen BERLINGSKE TIDENDE in Danish 8 Feb 85 p 29] 6578

CSO: 5500/2630

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